ARPAC GROUP

L-Series

Automatic L-Bar Sealer

Installation, Operation & Service Manual

P/N 100003.304

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Attention: Consult Accompanying Documents - As Applicable

This manual was originally written in English in the United States.

Arpac L.P.
9511 West River Street
Schiller Park, IL
60176 USA
www.arpac.com

Phone:1-847-678-9034
Fax:1-847-671-7006

Record of Revisions

Revision History

REV	Date	Reason for Change
A	4-14-2008	Original

Table i-1. Revision History

List of Affected Pages

Page Number	Rev Level	Page Number	Rev Level	Page Number	Rev Level
All	A				

Table i-2. List of Affected Pages

Warranty Information

ARPAC warrants the Products of its manufacture to be free from defects in material or workmanship for a period of one year from date of shipment from ARPAC's factory, provided that:

1. Such equipment is given normal and proper usage.
2. It is still owned by the original buyer.
3. The Products have been operated in accordance with generally approved practice and in accordance with ARPAC's specifications and instructions.
4. No repairs, alterations, or replacements have been made by others without ARPAC's prior written approval.
5. Genuine ARPAC repair components are used during the warranty period.

ARPAC's liability under this warranty or in connection with any other claim relating to the Products shall be limited to the repair or, at ARPAC's option, the replacement of any Products, parts or components thereof which are returned to ARPAC freight prepaid and which are defective in material or workmanship.

The Buyer shall notify ARPAC immediately of any defective parts and ARPAC shall thereupon correct the defect or defects. If such correction requires the replacement of a defective part or parts, ARPAC will supply same F.O.B. its factory.

If warranty parts are required, ARPAC will, at its discretion, repair or replace any defective stretch wrapping parts with a charge to a valid purchase order number. Defective parts, with a valid Return Material Authorization number obtained from ARPAC's service department, must be returned to ARPAC within thirty (30) days of warranty part shipment, freight prepaid, to receive a credit to this purchase order number. Failure to do so will result in zero credit being applied to the original P.O. or may void this warranty. All returned parts are subject to factory inspection. ARPAC reserves the right to determine the cause of failure and the subsequent inclusion of the replacement part under this warranty. Defective parts that have been disassembled or damaged during removal or otherwise tampered with will not be covered under this warranty.

Damage caused during transport is the responsibility of the carrier and is not covered under this warranty. All damages detected upon receipt of equipment should be reported immediately to the carrier and ARPAC should be notified.

ARPAC shall in no event be held liable for any direct, indirect, incidental or consequential damage, losses, expenses or delay caused by defective parts and will not accept any charges for work performed by Buyer in making adjustments or repairs to the Products unless such work has been authorized in writing by ARPAC. Except as stated herein, ARPAC makes no other warranty, expressed or implied, nor does it assume or authorize anyone else to assume for it, any other obligation relating to our products or any products.

Any Product or component not of ARPAC's own manufacture is not covered by this warranty and is sold to Buyer only with such warranty, if any, as is provided by such manufacturer, to the extent ARPAC and its assigns are able or entitled to enforce such warranty. Such items are not warranted by ARPAC in any way.

When components are sold to be assembled in combination of Buyer's design, the warranty shall be limited to each separate component and shall not apply to any combinations or components.

EXCEPT AS EXPRESSLY STATED ABOVE, ARPAC MAKES NO WARRANTY, EXPRESS OR IMPLIED, WHETHER OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR USE OR OTHERWISE, ON THE PRODUCTS, OR ANY PARTS OR LABOR FURNISHED DURING THE SALE, DELIVERY OR SERVICING OF THE PRODUCTS.

ARPAC factory trained, qualified technical services personnel are available for start-up and instructional assistance. If the customer does not utilize ARPAC personnel for this function, ARPAC is only liable for replacement of defective parts, not for labor or expenses necessary to adjust any problems during the start-up period.

ARPAC personnel are available for ARPAC equipment training, either on-site/ hands on or in classroom environment, supported by visual aids and literature, to be contracted for by a separate purchase order.

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Chapter 5 — Operation

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Safety Information

2

2.1 Introduction

Every effort has been made by Arpac® to provide you with a safe machine. This section describes the safety precautions that should be taken when working with, on or around the equipment. It is essential that machine operators and maintenance personnel follow the safety information below.

2.2 Personnel Instructions

Warning

Make sure that you wear safety goggles and other personal protective equipment according to your company's safety standards when operating this machine. You may get injured if you do not.

Warning

Make sure that all power is disconnected from machine and machine has stopped before servicing machine or clearing machine of jams. You may get seriously injured if you do not. Follow your company's lock out/tag out procedures accordingly.

Interfacing Equipment

Observe all applicable codes when interfacing this equipment to other equipment. Specific attention must be paid to any PINCH POINTS that may be created.

2.3 Statement of Liability

While this machine has been designed for safe operation, improper operation or carelessness may result in serious injury or damage to equipment. The manufacturer or its agents and representatives assume no responsibility for the following:

1. Injury or danger from improper use of the machine.
2. Problems or hazards resulting from failure to maintain the equipment as specified in this manual.
3. Equipment which has been tampered with or modified. Arpac is not liable for any damage or injury arising from failure to follow the instructions and procedures provided within this manual or associated informational material, or from user failure to use caution when installing, operating, adjusting, or servicing this machine. Arpac is not liable for damage or injury arising from the use of this product for any other use than that intended by the manufacturer.

2.4 Safety Conventions Used in this Manual

Specific safety information is listed in this manual in the form of WARNING and CAUTION statements. Pay close attention to these statements - they contain important information on avoiding potential hazards to you or the equipment.

Warning Statements

- are used to indicate hazards or unsafe practices which COULD result in severe personal injury or death.
- appear in **bold** type.
- have a triangular symbol with an exclamation point above the text.
- are preceded by the word **Warning**.
- are always found before the step or piece of information to which they refer to.
- look like the following example:

Warning

Make sure that all power is disconnected from machine and machine has stopped before servicing machine or clearing machine of jams. You may get seriously injured if you do not. Follow your company's lock out/tag out procedures accordingly.

Caution Statements

- are used to indicate hazards or unsafe practices which could result in minor personal injury or product or property damage.
- appear in **bold** type.
- have a triangular symbol with an exclamation point above the text.
- are preceded by the word **Caution.**
- are always found before the step or piece of information to which they refer to.
- look like the following example:

Caution

Remove shipping bolts before operating machine. Machine may get damaged if you do not.

2.5 Safety Labels

The labels shown below are placed at various locations around the machine. They are self explanatory.

Figure 2-1. Machine Safety Labels

2.6 Lockout/Tagout Procedure

Before servicing the machine, make sure that it's power is locked out and tagged as follows:

1. Notify all affected employees that machine is going to be locked out.
2. Turn the main disconnect switch (1 in Figure 2-2) off.
3. Insert bar (2) through brackets (3).
4. Place padlock (4) though switch and lock it.
5. Place tag (5) on switch that includes the name of the person who locked machine out.

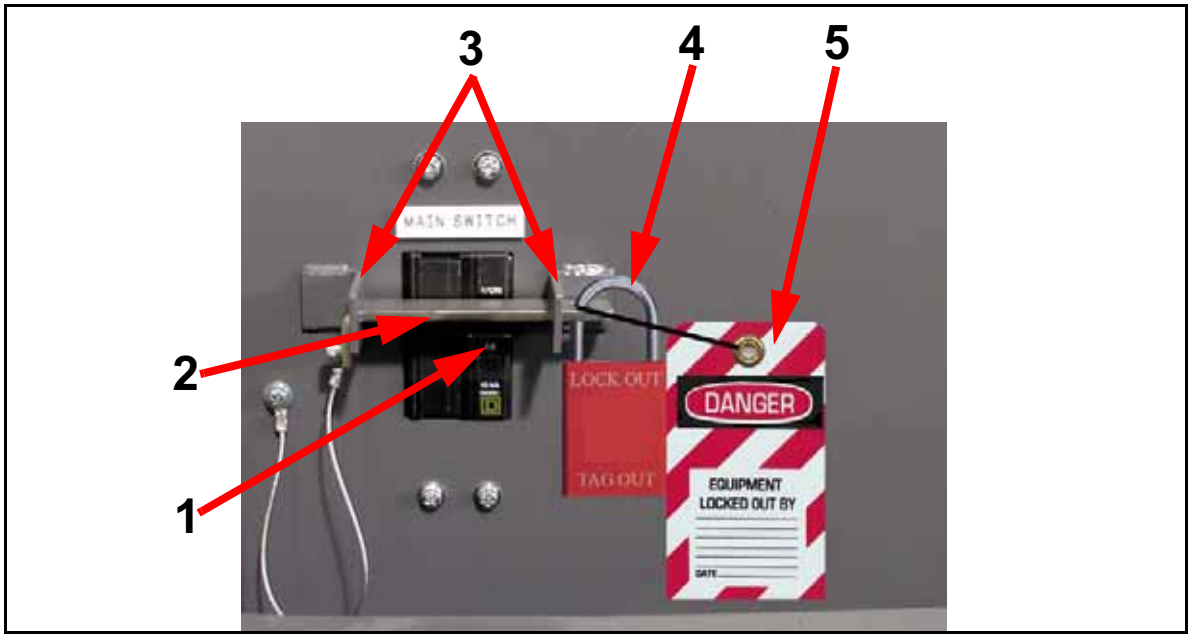

Figure 2-2. Main Disconnect Switch

2.7 EMERGENCY STOP Buttons

There is at least one and maybe several EMERGENCY STOP buttons located on the machine. Pressing any of these buttons will immediately stop the machine and drop all electrical and pneumatic power to the machine except the machine's internal controls.

The machine cannot be restarted until all EMERGENCY BUTTONS are pulled up and the CYCLE STOP RESET button on the main control panel has been pressed.

Figure 2-3. Typical EMERGENCY STOP Button

2.8 Guard Door Switches

Each guard door on the machine is equipped with a safety interlock switch. When a guard door is open, all moving components on the machine will immediately stop. Power to the heating elements and seal bars, however, will remain on and those components will remain hot.

The machine cannot be restarted until all guard doors are closed and the CYCLE STOP RESET button on the main control panel has been pressed.

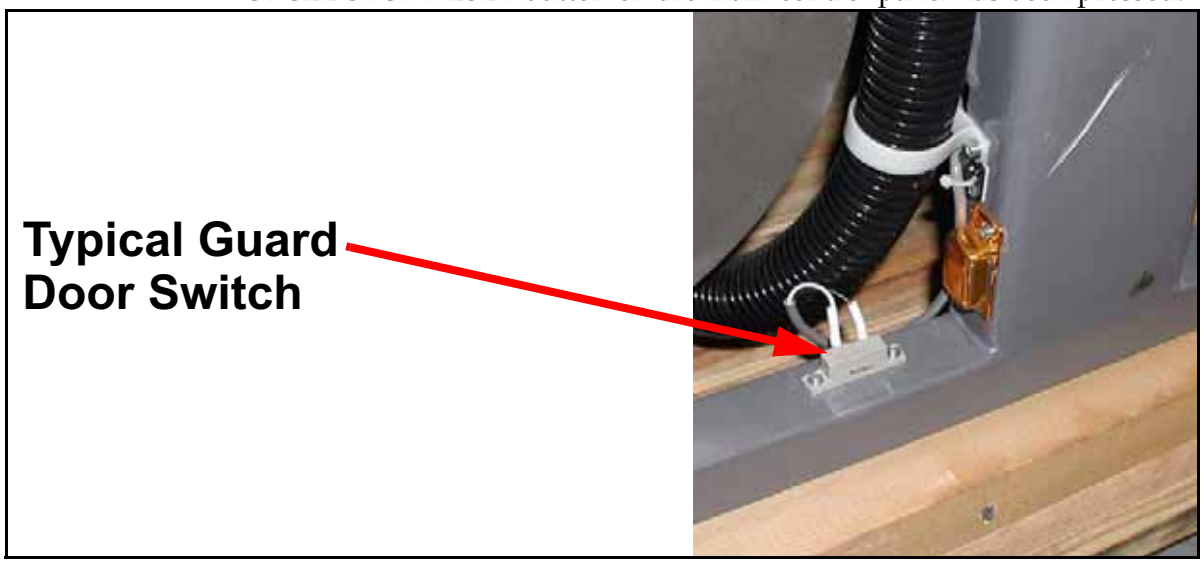

Figure 2-4. Typical Guard Door Switch

Introduction

3

3.1 Introduction

This manual provides installation, operation and service information for the L-Series Automatic L-Bar Sealer. This manual also includes an illustrated parts list for the machine.

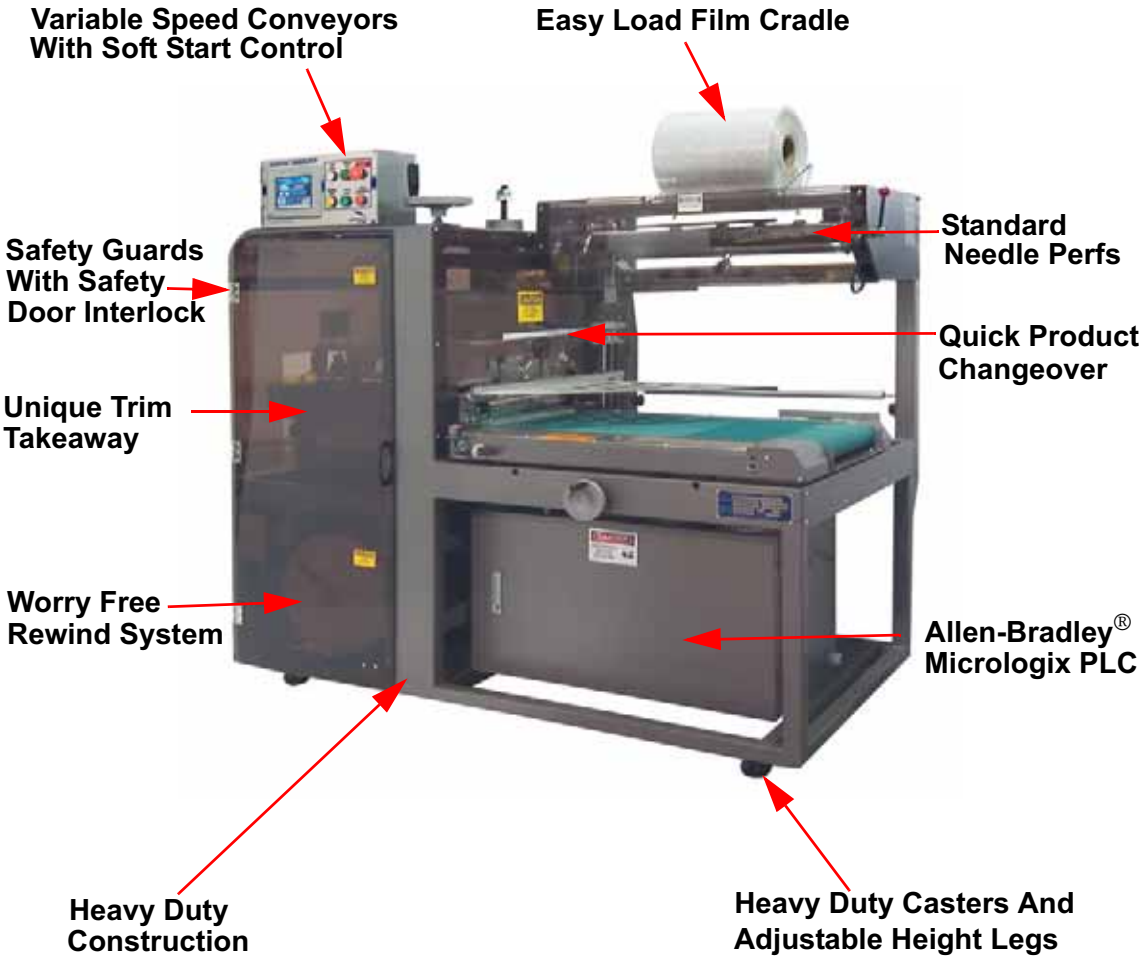

Figure 3-1. L-Series Automatic L-Bar Sealer

(Refer to the next page for an explanation of the features shown above).

3.2 Machine Features

The ARPAC® HANAGATA L-SERIES Automatic L-Sealer offers you the latest in shrink packaging technology, featuring a proprietary design that provides fast, user-friendly and reliable operation. Developed by Hanagata and ARPAC®, pioneers in automatic L-Sealer technology, the flexible ARPAC® HANAGATA L-SERIES is guaranteed to provide you with high quality packaging for retail display. This exclusive distribution partnership brings Hanagata's packaging innovations to North America with US based service and support.

Standard Features

- *Worry Free Rewind System.* Independent motor and closed-loop operation accommodates the lightest film gauges and narrow film tails, reducing your film requirement.
- *Unique Trim Takeaway.* No more film tail breaks! Timing belts do not pull, but gently assist the film tail to the rewind system.
- *Safety Guards with Safety Door Interlock.* Strong poly carbonate doors for product visibility and safety.
- *Variable Speed Conveyors with Soft Start Control.* The latest in AC motor control technology. Precise digital motor overload monitor with accel/decal soft start control for reliable service without the maintenance required by other motor systems.
- *Heavy Duty Construction.* Welded tubular frame, linear shafts and factory sealed bearings offer dependable operation in the most demanding production environments.
- *Heavy Duty Casters and Adjustable Height Legs.* 32 1/2" conveyor height adjustable to 36 1/2".
- *Allen-Bradley® Micrologix PLC.* AC Frequency motor control, circuit breaker protection (no fuses) and solid state heater relays ensure optimum machine performance.
- *Standard Needle Perfs.* Allows positive air evacuation during shrink process for the most uniform retail package.
- *Easy Load Film Cradle.* Handles 24" CF width (L-18) and 30" CF width (L-26). Film threading from the front allows placement of machine against wall or in-line with conveyor system.
- *Quick Product Changeover.* Simple hand crank adjustments to marked scale positions offer maximum flexibility with product changeover in just minutes.

Competitive Advantages

- User-Friendly Control Panel:
  - *Emergency Stop Push Button.* Immediately stops all machine operations. Must be released and reset to continue operation.
  - *Cycle Stop/Reset Push Button.* Stops the cycle of the machine and resets the controller after an emergency stop or machine fault.
  - *Cycle Start Push Button.* Starts the automatic cycle of the machine. The working indicator will illuminate when the machine is in the cycle mode.
  - *Manual Seal Button and Film Feed Push Button.* Provides manual control during product setup.
- User-Friendly Color Touch Screen Operator Interface:
  - Easily adjustable wrapping parameters such as sealing temperatures.
  - Ability to monitor system performance.
  - Automatic Seal Head Calibration to determine ideal seal closing speed.
  - Help Screen.
  - Check the Number of Hours a Machine has been run to determine when Periodic Maintenance is due.
  - Output Forcing Screen.
- *Innovative Pinch Roller Design*. Gently pulls "raw" film ahead of seal bar. Film breaks are eliminated on even the lightest film gauges. Precise control of the film web reduces film width requirement for most products.
- *Stroke Limiting Adjustable Seal Height.* A single adjustment provides a centered seal for best product appearance, while limiting seal head stroke for the fastest production speeds. A proprietary "Seal Height Calibration Sequence" measures seal head height and automatically determines proper seal head cushioning for all seal heights.
- *Guillotine Style Seal Head.* Provides consistent seal strength for all product profiles. Vertical movement using linear shafts, bearings and reciprocating chains is proven to be a superior sealing method, eliminating the scissor action and linkages associated with pivot style systems.

Available Options

- *Slide Conveyor:* Allows transfer of small/unstable product. Minimum length 1 1/2″ includes stroke limit feature which allows fastest speeds as permitted by product characteristics.
- *Vertical Photo Eye:* For use with products under 1/4″ high or those not consistently detected with standard horizontal photo eye.
- *Pneumatic Hole Punch.* Pneumatic air cylinder with 1/4″ round serrated tip punches hole through both top and bottom film layers. Additional air cylinder punch is easily added.
- *Lower Film Cradle.* Relocation of film cradle rollers to lower/rear of machine.
- *Auxiliary Emergency Stop Push Button.* Additional emergency stop push button can be located at infeed table or further upstream at operator station.
- *2″ Seal Height Extension.* Increases L-18 product height capacity to 8″, and L-26 product height capacity to 10″.
- *Auxiliary Infeed Conveyor Control Relay.* Provides "dry contact" for synchronous operation with 6′ lugged, 6′ belted, collator or any auxiliary infeed system.
- *Infeed Product Guide.* Guides product into the seal area. Use with automatic infeed or round/unstable product.
- *Print Registration.* Runs print registered films. Closed-loop system for 1/4″ accuracy.
- *Vision Series Shrink Tunnel.* Produces tightly-wrapped, aesthetically pleasing packages. Features a quality control viewing window.
- *Reverse Flow.* Mirror image construction for product flow from left to right.
- *Machine Status Beacon.* Green light - machine in cycle mode. Red light - for fault condition.
- *Stainless Steel.* Stainless construction with food grade belting. Not intended for wash-down environment.
- *460 Volt Conversion.* Step down transformer accepts 460 volt single phase power.
- *Powered Film Center Folder.* For running single wound film.
- *Heated Seal Pads.* Preheats seal pads for fastest sealing operation. Can increase cycle speeds 10-25%.

3.3 Dimensions

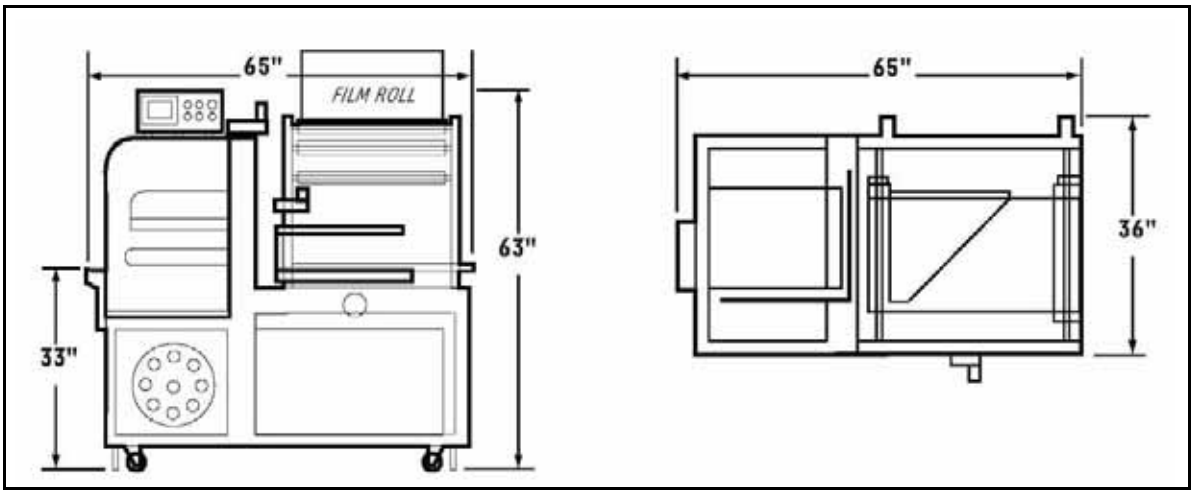

Figure 3-2. Dimensions, L-18 Model

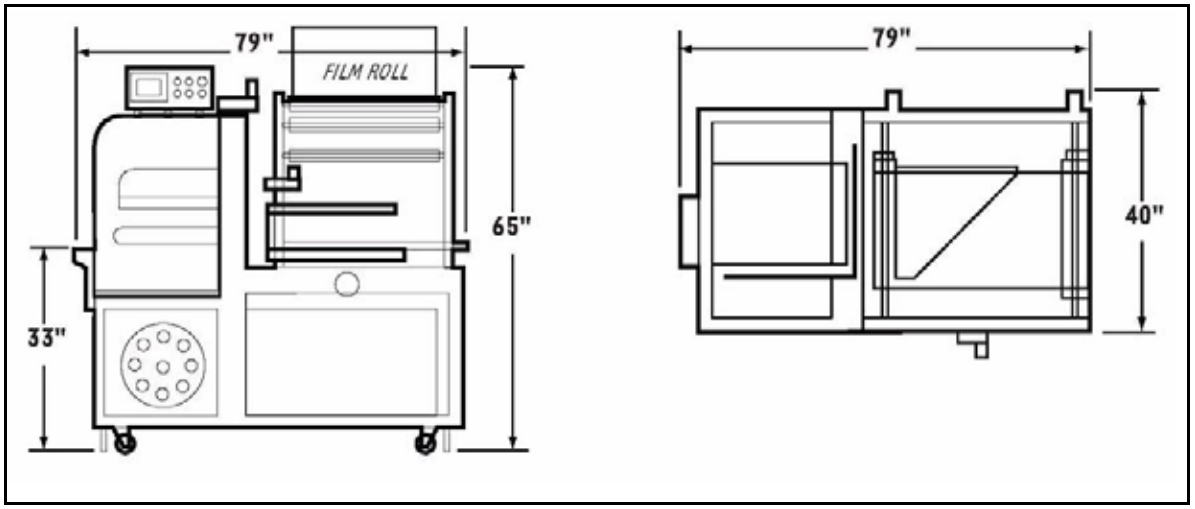

Figure 3-3. Dimensions, L-26 Model

3.4 Specifications for L-18 Model

Specifications	
Electrical Requirements	200-220V (AC), 1Ph, 60Hz, 15A
Pneumatic Requirements	80 psi, 1 SCFM
Max Packaging Speed*	40 PPM based on 7" W x 4" L x 1" H product
Variable Conveyor Speed	45-90 FPM
Seal Dimensions	17 3/4" W x 19 1/2" L
Product Range**	- 1 1/2" to 15" width across machine (AM) - 4" to 18 1/2" length down machine (DM) - 1/4" to 6" high - 25 lbs. max. package weight - Package width + height cannot exceed 17 3/4" - Package length + height cannot exceed 19 1/2"
Film Size***	24" centerfold maximum, 11 1/2" diameter, "B" wind
Gross Shipping Weight	1,170 lbs.

Table 3-1: Specifications, L-18 Model

3.5 Specifications for L-26 Model

Specifications	
Electrical Requirements	200-220V (AC), 1Ph, 60Hz, 15A
Pneumatic Requirements	80 psi, 1 SCFM
Max Packaging Speed*	40 PPM based on 7" W x 4" L x 1" H product
Variable Conveyor Speed	45-90 FPM
Seal Dimensions	21 1/2" W x 27 1/2" L
Product Range**	-1 1/2" to 19" width across machine (AM) -4" to 26 1/2" length down machine (DM) -1/4" to 8" high -25 lbs. max. package weight -Package width + height cannot exceed 21 1/2" -Package length + height cannot exceed 27 1/2"
Film Size***	30" centerfold maximum, 11 1/2" diameter, "B" wind
Gross Shipping Weight	1,600 lbs.

Table 3-2: Specifications, L-26 Model

* Production Speed depends on product size, stability and film characteristics.
** Package maximums cannot occur together.
** Sizing formula: W + H (1" min.) + 3" + CF film width.
For products over 3" high, use W + H + 4 + CF film width.

3.6 Abbreviations

%	Percent
° C	Degree Celsius
cm	Centimeter
° F	Degree Fahrenheit
Kg	Kilogram
Lb	Pound
M	Meter
max.	Maximum
min.	Minimum
mm	Millimeter
SCFM	Standard Cubic Feet Per Minute
UL	Underwriters Laboratories

3.7 Mechanical Sub-Assemblies

This section gives a brief overview of the machine's subassemblies.

3.7.1 Film Feed System

The film feed system consists of the following major components:

3.7.1.1 Film Rack

This machine has a top-mounted cradle type film rack capable of holding one roll of film. This assembly is located on the back of the wrapper inline with the film former. Its purpose is to hold the film roll inline with the film inverters.

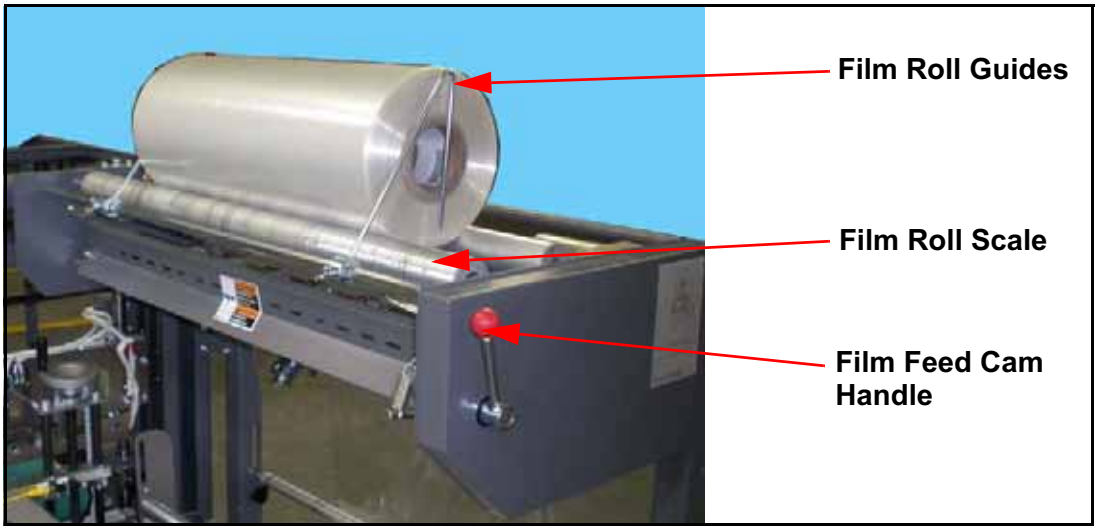

Figure 3-4. Film Rack

The film is placed onto the cradle and threaded through the film feed rollers, perforator, around the film separator bar, a series of guide rollers, a static eliminator brush, the dancer bar and final adjustable film roller, then is threaded through the film Inverters. Two adjustable film roll guides hold the film roll in place. These are used to align the roll of film to the film inverter tips. To adjust the position of these guides loosen the wing nuts, slide the guide into position and tighten the nuts.

Warning

Film rolls are very heavy. Keep your clothes and body parts clear of the film rack while loading rolls of film. Refer to your company handbook for proper lifting procedures.

The film cradle is equipped with a scale for easy positioning of the film roll. Use the scale on the film cradle along with the scale on the film former.

3.7.1.2 Lower Film Cradle

The picture below shows the machine with the optional lower film cradle. The optional lower film cradle uses the same pinch rollers and perforator as the upper film cradle. The lower film roll is adjusted and has the same type of scale as the upper film cradle. However, the lower film roll is threaded differently than the upper.

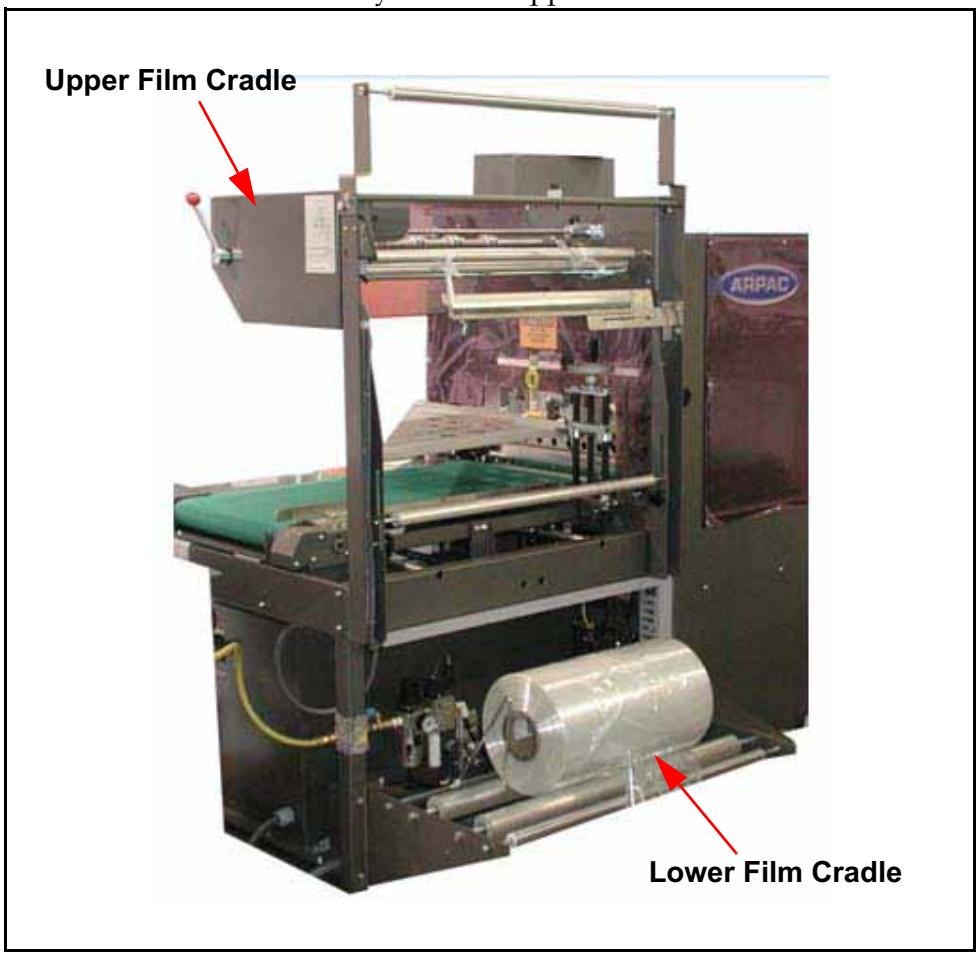

Figure 3-5. Lower Film Cradle

3.7.1.3 Film Feed

This assembly is located above the front of the machine. It unrolls the film from the original roll and feeds it to the dancer assembly.

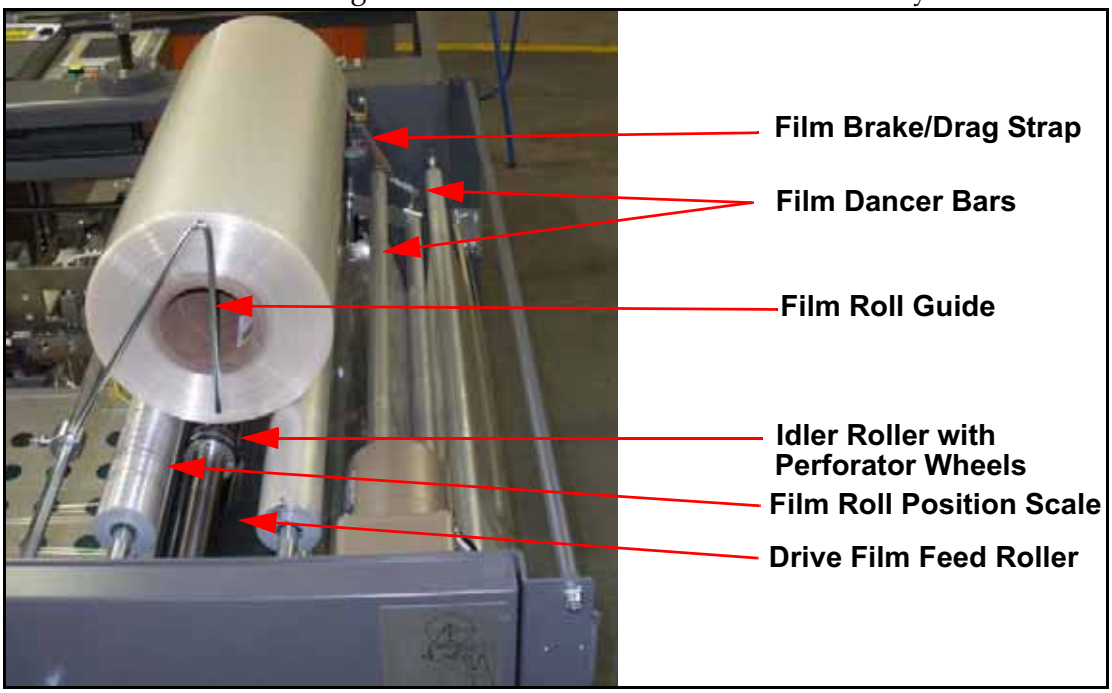

Figure 3-6. Film Feed

The film is fed through the film feed rollers by placing the film between the two spring loaded film feed rollers. The film system is equipped with an anti-static eliminator bar. This helps the center folded film to open smoothly though the film feed system. When the film advances in the machine, the film dancer assembly raises and the spring loaded drive rollers, driven by an electric motor turn on, pulling the film off the film roll at a calculated rate.

The film system is equipped with an anti-static eliminator bar. This helps the film to travel smoothly through the film feed system.

A limit switch mounted to the side of the film rack signals the PLC to run the film feed motor. A trigger arm (flag) attached to the dancer arm is used to trip the limit switch when more film is needed raising the dancer bar. When this limit switch is tripped, the film feed motor turns on unwinding the film. The dancer bar lowers taking up the unrolled film until the flag no longer is in contact with the switch.

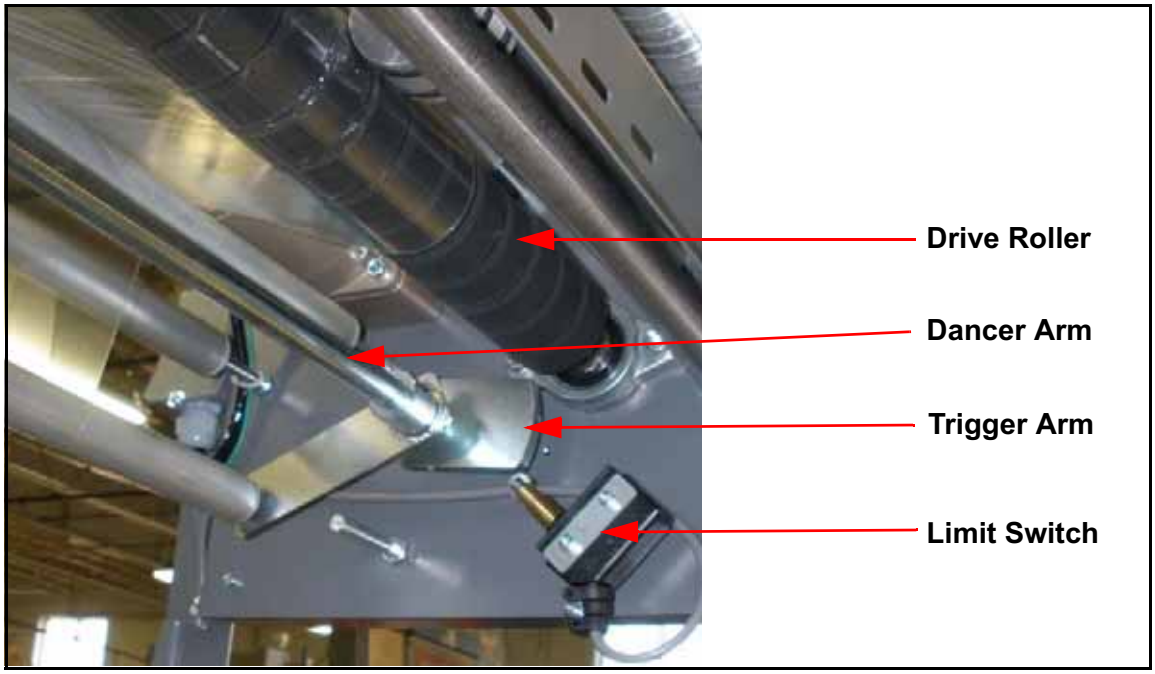

Figure 3-7. Film Feed (continued)

NOTE: Only one roller of the pair of film feed rollers is driven.

Warning

Keep long hair dressed properly, preferably in a hair net or cap. Do not wear loose clothing around this assembly. These rollers are spring loaded together. They are rubber coated and grooved to allow the spring loaded roller with the needle perforator rings to spin without damaging the rubber. They are designed to effectively pull the film from the film rack while perforating the film. Therefore, anything that comes in contact with these rollers can and will be pulled into the machine. The needles are very sharp! Do not put your body parts, clothing, rags or anything else near these rollers when the machine is in cycle.

3.7.1.4 Film Perforator

The film perforator is mechanical device located on the film rack. It consists of a series of pinwheels mounted to the upper pinch roller. The perforator wheels have pins facing outward between two rubber "O" rings held against a lower rubber-coated pinch roller (film drive roller). The needles should be aligned over a groove and the "O" rings to ether side. The perforator assembly makes a pattern of small pinholes in the film for air evacuation during the shrink process. This in turn allows the film to shrink tightly around the products.

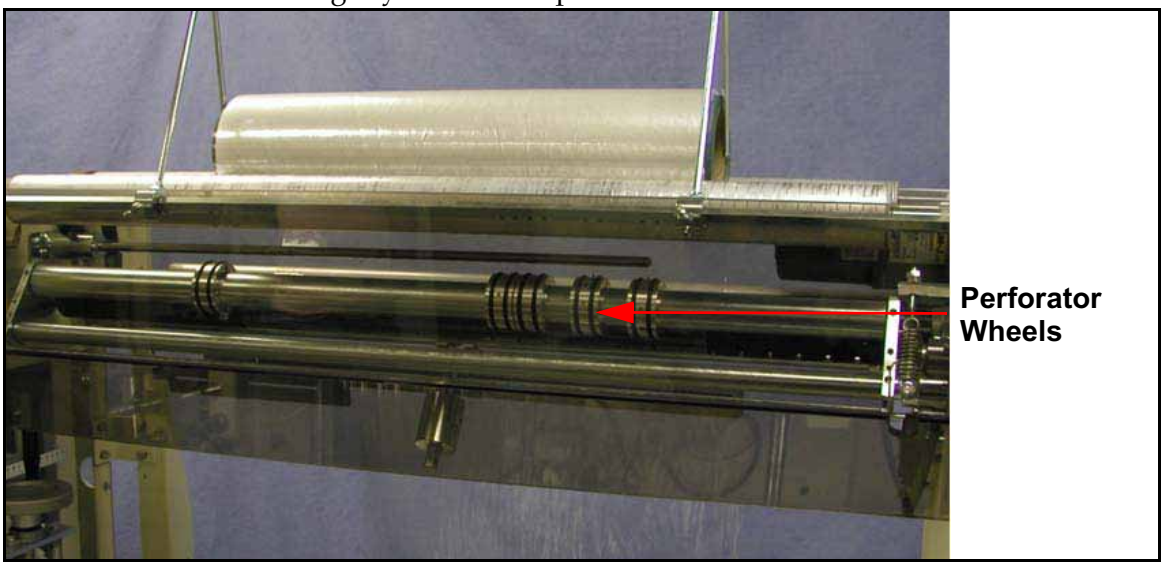

Figure 3-8. Film Perforator

Film is threaded through the film feed rollers. When film is required the rollers rotate and the perforator pins poke holes in the film.

The position of these perforator wheels can be adjusted to fit a variety of film roll sizes. To adjust the position of the wheels, loosen the set screw, slide the wheel along the shaft, and tighten the screw.

3.7.1.5 Dancer Bar

The dancer bar assembly is made up of a series of film guide rollers, a stationary arm and a pivoting arm with a counterweight and a limit switch. The dancer bar is located below the film cradle, after the film feed and just before the film-forming plow. The dancer bar assembly was designed to create a reservoir of film under constant light tension to immediately meet the film requirements of the advancing product and closing seal bar.

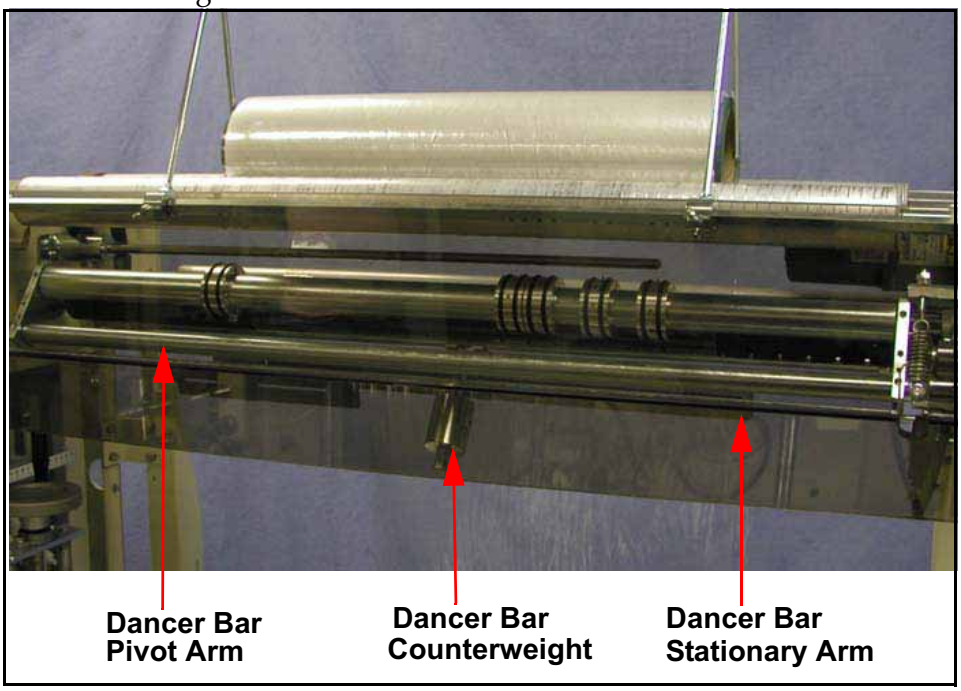

Figure 3-9. Dancer Bar

When the machine is in cycle, the pinch roller system pulls the film and creates a demand on the film feed system. The film is fed into the dancer bars by the film feed rollers when the film feed trigger arm moves in front of the limit switch. When enough film is fed the dancer arm will pivot down, thus moving the dancer trigger arm away from the limit switch and stopping the film feed rollers.

When another product moves through the seal assembly, more film will be demanded and cause the dancer arm to pivot up again. This will move the dancer trigger arm in front of the limit switch and will signal the film feed system to begin feeding film again.

3.7.1.5 Dancer Bar (continued)

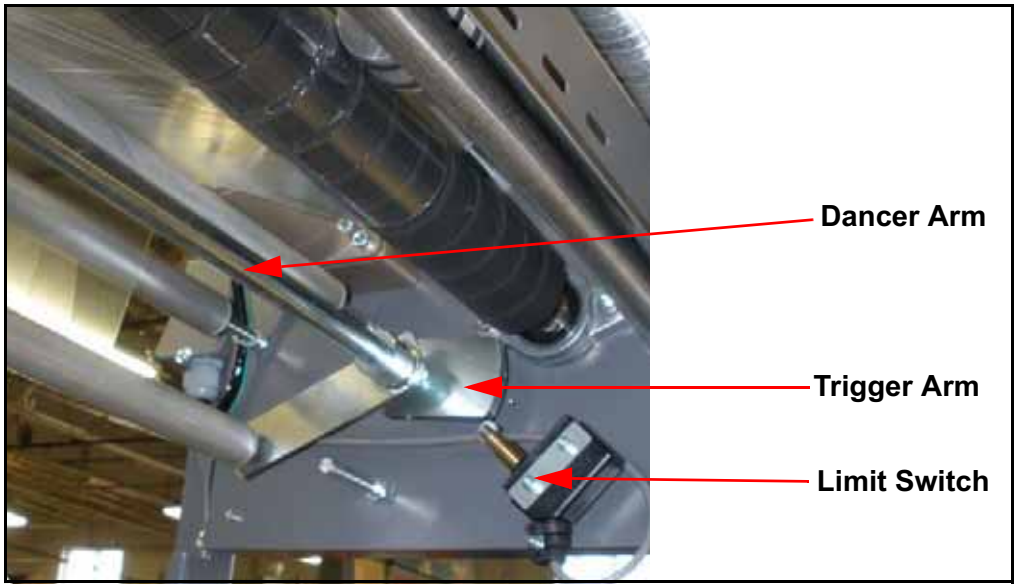

Figure 3-10. Dancer Bar (continued)

A spring-loaded, leather film brake is provided to reduce inertia of the film roll. This helps to slow the film roll when enough film has been fed through the system.

The dancer arm has a counterweight used to adjust the amount of tension placed on the film. If it is moved toward the pivot point of the dancer arm, the film tension will increase. If it is moved away from the pivot point of the dancer arm, the film tension will decrease. The dancer weights were positioned during the testing process. However, due to environment, product or film changes, they may need to be readjusted by the customer.

NOTE: Increased film tension will not result in a tighter wrap on the product, but will cause weak seals.

3.7.2 Film Inverter

The film inverter consists of two metal plates and a height adjustment wheel. The film inverter is located after the film rack just before the seal assembly. The purpose of the film inverter is to change the direction of the film and wrap it around each product as it travels on the in-feed conveyor to the sealing area.

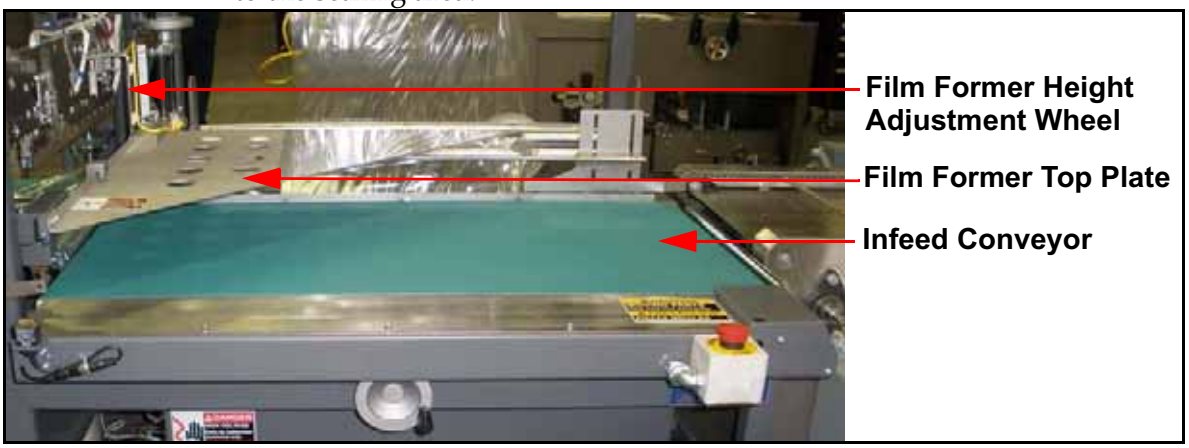

Figure 3-11. Film Inverter

Film is threaded through the film feed system, around both of the film inverters, and into the pinch rollers. The film-separating bar and the static eliminator bar on the film rack separate the center folded film so that the film can fold inside out smoothly through the inverting process. Product passes under the top film inverter on the in-feed conveyor belt to the product present photo eye. This signals the pinch roller system to begin running. This advances the film creating a demand on the film dancer bar pulling the film as the product passes the transverse direction (TD or cross) seal bar, When the product passes the photo eye a timer starts to allow the product to transfer on to the discharge conveyor past the TD seal bar plus one and one half times the height of the product. The discharge conveyor stops and the Seal head closes, sealing the side or Machine Direction (MD) and trailing edges creating a total enclosure of the product pouch.

3.7.3 Trim Removal System

The Pinch rollers are the heart of the scrap removal system. They pull the film forward and keep the film tracking evenly over the film inverter system. The system is an independently driven mechanical device used to guide the film that is to be trimmed from the package evenly until the MD bar (machine direction or side seal bar) fuses and cuts the film from the side of the package. The film guide is set for the length of the package and keeps the film tight in the take away belt to avoid a large dog ear on the leading MD seal. The trim takeaway device pulls the film through the film removal system and delivers the trimmed film to the power film winder. The trim take-away device is mounted to the seal head frame on the operator side of the wrapper next to the machine direction seal bar. It is automatically adjusted when the seal bar height is adjusted to the product.

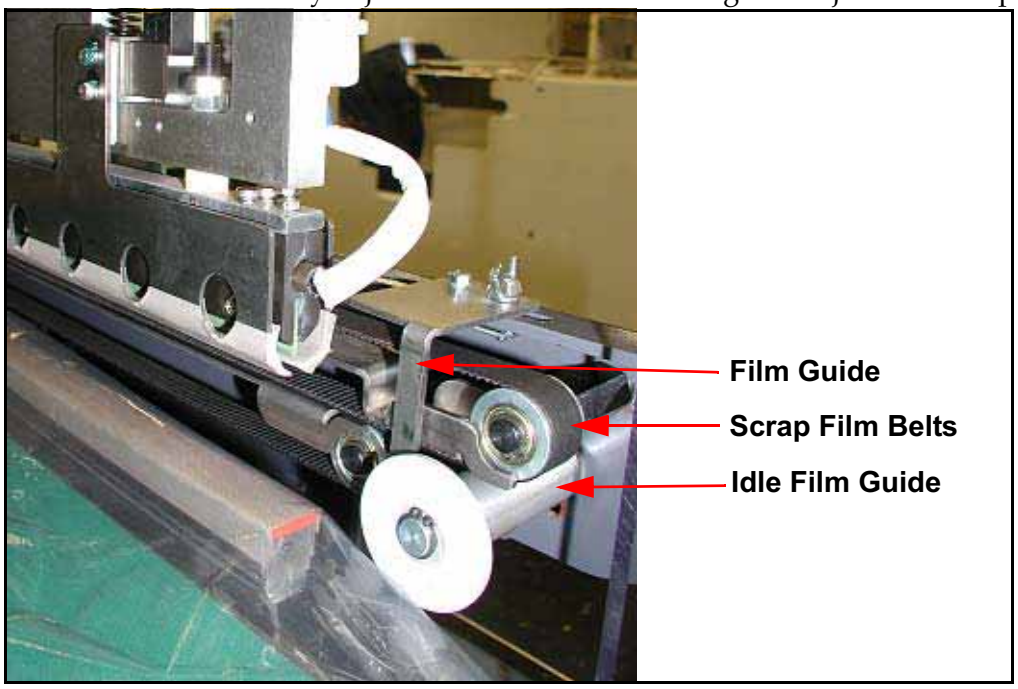

Figure 3-12. Trim Removal System

Film is threaded through the pinch rollers at the entry end of the device. The trim

take away begins running when the product peasant photo eye is blocked by a product moved into position by the in feed belt. The upper and lower pinch rollers grip the film and pull it into the trim belts through to the exit end of the take-away where the trimmed film is threaded over the idle roller under the dancer bar over the second idler roller. Attach the tail to the rewind wheel. This device will run during the automatic cycle until the dancer is at the top and makes a proximity switch stopping the drive motor. If the trim breaks or the film has run out, the drive will run for a programmed amount of time and the machine will fault out, giving the message the trim drive has run too long.

3.7.4 Trim Rewind System

The Trim rewind system is an independently driven mechanical device used to remove trimmed film created after the MD bar fuses and cuts the film. It consists of a series of

Guide-rollers, a dancer bar assembly and a rewind spool. The trim is threaded from the guide roller on the trim take-away under the dancer bar, and over the idle roller and then onto the rewind spool. To remove the trim, cut the film trim, leaving a long tail, remove the face of the spool and slide the trimmed film off the film core. Reattach the face of the spool and tighten the knob. Tie the tail to one of the holes in the spool face. Make sure to manually turn the spool clockwise to take up the slack in the film, and raising the dancer bar

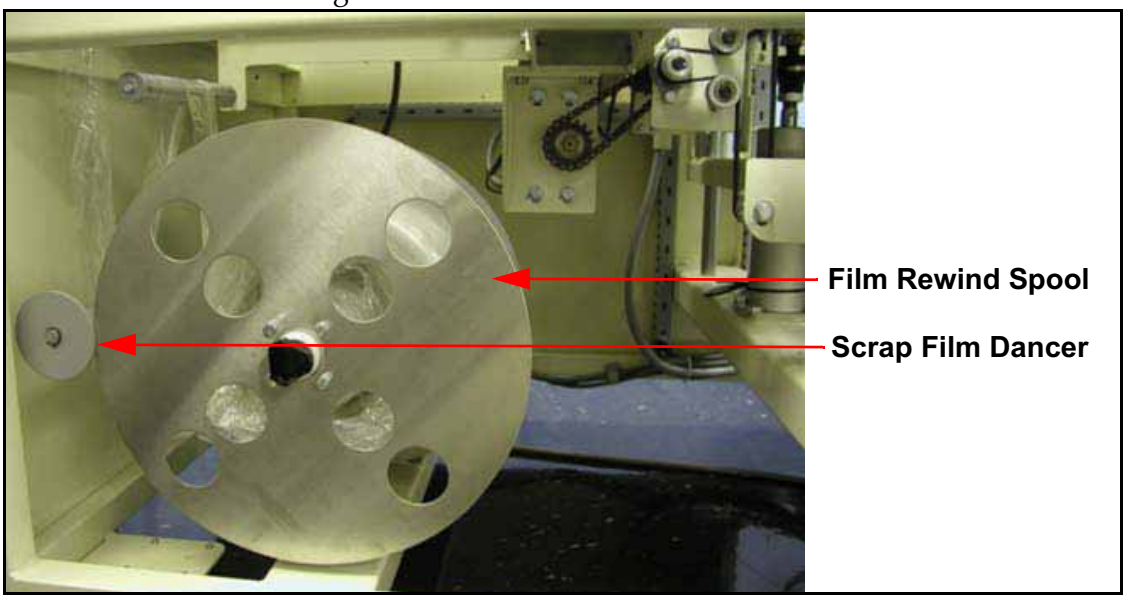

Figure 3-13. Trim Rewind System

3.7.5 Seal Assembly

The seal assembly is one of the most important assemblies on the machine. It is in this area that the product is sealed in the film. The seal bars fuse and cut the film on the side, and before and after each product. This creates a fully enclosed film pouch around the product. The sealing and cutting of the film must be complete and accurate. If the film is not cut completely, the products may stick together or will try to follow the trim down to the take up spool.

The film pouch itself must not be too large or too small. If it is too large the tunnel will not be able to shrink it properly. This will cause the final package to have the dog ears in the wrong position or too large. It can also cause Crows feet along the edges of the package. The pouch size should be the same size around as it is long.

3.7.5.1 Seal Frame

The seal frame is the mechanical assembly in which the seal bars are mounted. This assembly is located behind Lexan door guarding the out-feed conveyor and the trim spool take up assemblies. This assembly opens and closes the seal bars, thus sealing both ends and the side of the plastic pouch that has been formed around the product.

As the product travels on the in-feed conveyor it blocks the product present at seal bar photo eye located in front of the seal frame, a timer starts that can be changed as needed in the set up area on the HMI. This timer can delay the start of the pinch rollers allowing the package to move into the front of the sealed tube. As the product passes the product present at seal bar photo eye, another timer starts (delay to start the seal bar) when the timer finishes, the product should have cleared the TD seal bar by one and one half times the height of the product. At this time the TD and MD seal bars close and seal and cut the film simultaneously. This seals one product in the film and prepares the next section of film for the next product.

Flow controls are used to control the speed of opening and closing the seal bars. There is a seal bar calibration set up in the maintenance section of the HMI.

Warning

There are hot and moving parts above and below the machine deck when this device is activated. Stay clear of this assembly when the machine is turned on.

3.7.5.2 Seal Bars

The seal bars are mounted to carrier bars in the seal frame. Each seal bar has two parts: a hot bar and a cold bar. The purpose of the seal bars is to fuse and cut the film before and after each product.

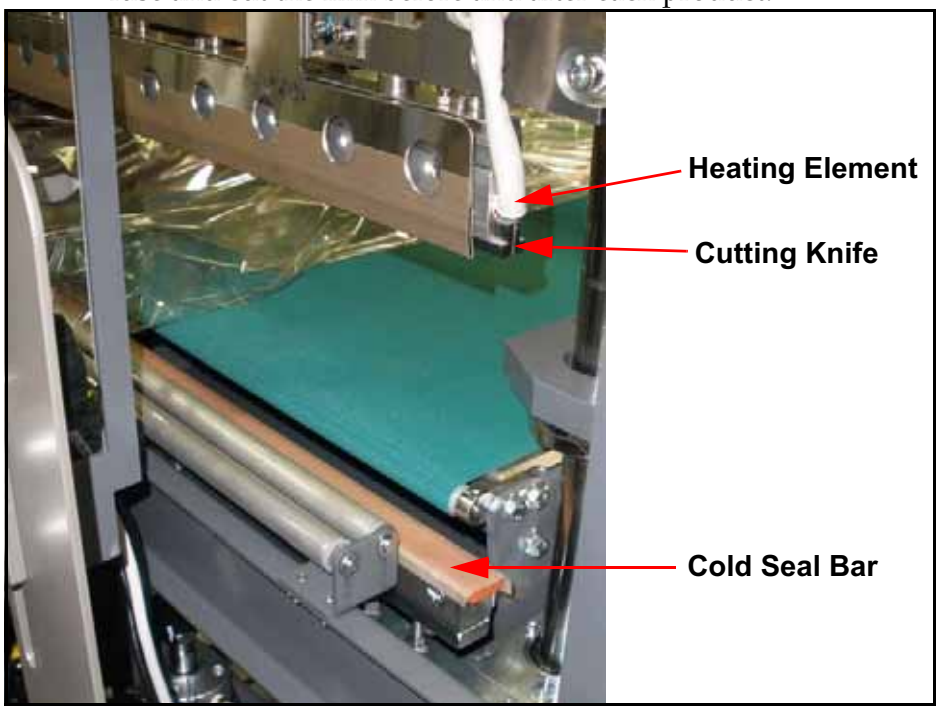

Figure 3-14. Seal Bars

This is accomplished by squeezing two pieces of the film together between the hot and cold bars. The hot bar heats the film until the two pieces of film fuse together. The polyolefin arrowhead knife pushes the film down into the soft cold seal pad and fuses the film on the sides of the bar. The point of the bar then cuts the film after the seal is achieved. Dwell time and temperature are important to create this scenario. All films react differently and the correct dwell and temperature need exploration. Always start with a low temperature first. Increase the dwell time until the film cuts and seals. For higher machine speeds increase the temperature 10 degrees at a time and decrease the dwell time. When the film stops cutting, increase the temperature 10 degrees. Continue this process until the seals are unsatisfactory and return to the temperature and dwell time that worked.

Warning

The seal bars can be hazardous to your body parts. The hot bar can and will burn the skin. Do not override any of the machine safety devices while sealing film. Stay clear of this assembly when the machine is turned on.

3.7.6 Infeed Lug Conveyor (optional)

The in-feed lug conveyor is an independently driven chain and lug conveyor. Two metal guides are mounted and fully adjustable to the sides of the machine frame and create a centering device on the conveyor. The Guides should be set equally from the center of the conveyor lug. A series of lugs, made from Delrin, (a hard plastic bearing material) are attached to the in-feed drive chain and used to push product from the start of the lugged in-feed and onto the wrapper in-feed belt. This conveyor is equipped with a torque limiting clutch that will disengage and stop the drive if too much pressure is placed on the lugs, such as in a jam situation. The side guides and lugs are adjustable to accommodate a variety of product sizes.

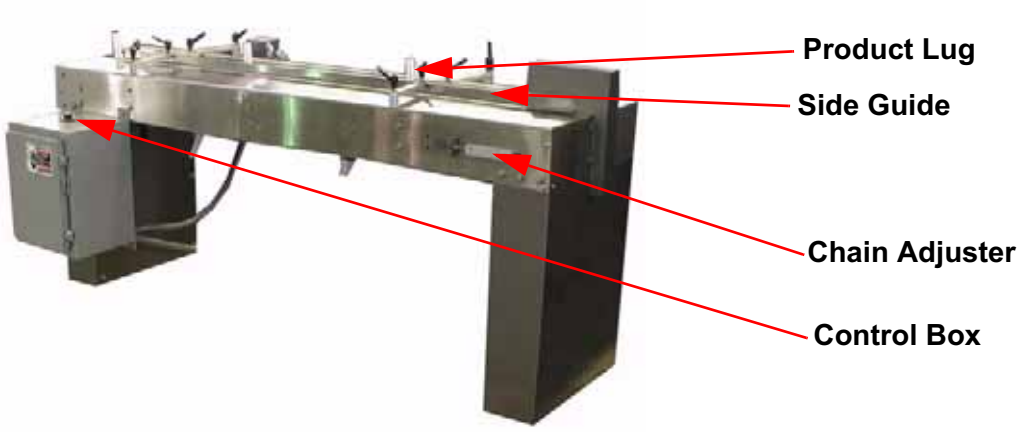

Figure 3-15. Infeed Lug Conveyor (optional)

Products are placed in front of the lugs and are pushed along to the belted in-feed conveyor. As the product exit the conveyor the lugs pivot on the chain and are carried under the conveyor table where they ascend again behind incoming products at the front of the machine to begin the cycle again.

Electrical control and power for this conveyor comes from the L Series wrapper. The speed of this conveyor is controlled by a adjustable potentiometer located on the conveyor electrical box.

Warning

It is important for everyone working around this assembly to understand that the machine and conveyor are still in cycle and will start moving without warning.

3.7.7 Infeed Conveyor

The in-feed conveyor is an independently driven endless nylon belted conveyor located at the front of the machine. The purpose of the in-feed conveyor is to transfer the product hand loaded or from the optional in-feed conveyor through the seal frame area and onto the out-feed conveyor.

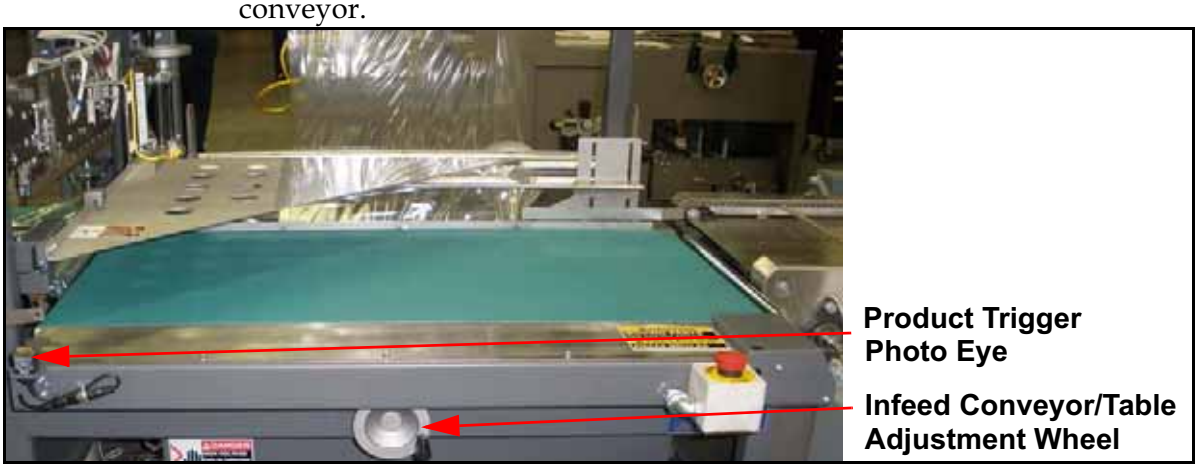

Figure 3-16. Infeed Conveyor

The in-feed conveyor starts when the machine is put into cycle. A photo eye, located at the exit of the in-feed conveyor just before the seal frame, is used to detect a product as it enters the seal frame. The bag length timer starts when the product blocks the photo eye. The seal frame closes and the seal conveyor stops at the photo eye if the product staging option is turned on. This is adjustable through the HMI.

The in-feed conveyor will continue to run while the seal frame is closed unless another product blocks the seal bar trigger photo eye. This prevents a product from trying to enter the seal frame area while the seal bars are closed. When the seal bars open, the in-feed conveyor will start again, transferring the next product through the seal frame. If Product staging is not selected, proper spacing must be maintained to avoid the products from colliding with the seal bar when closed.

3.7.8 Outfeed Conveyor

The out-feed conveyor is an independently driven endless nylon belted conveyor located at the back of the machine. The purpose of the out-feed conveyor is to transfer the product from the in-feed conveyor, on to the out-feed conveyor and, through the seal frame area. After the seal dwell cycle is completed the conveyor will run and transfer the product onto the customer provided conveyor or the tunnel conveyor when shrink is necessary.

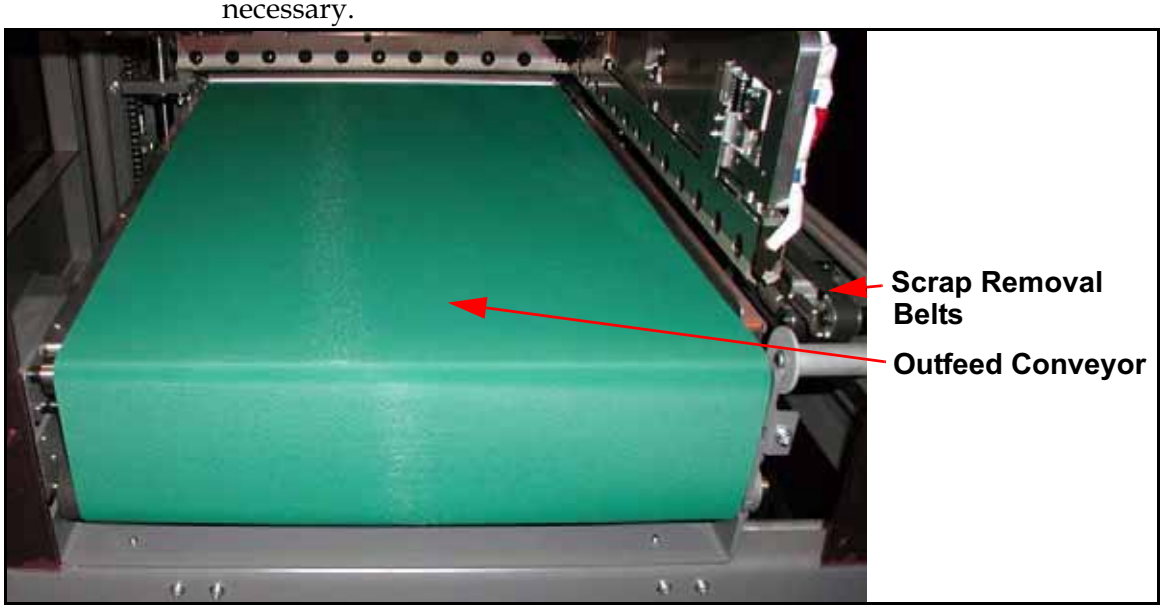

Figure 3-17. Outfeed Conveyor

The out-feed conveyor starts when the machine is placed into the cycle on mode. When the product conveys with the film and onto the seal conveyor the out-feed conveyor stops, and the seal bars close. After the seal dwell timer times out the, seal bars begin to open and the seal conveyor restarts transferring the product to the next conveyor.

Installation

4

4.1 Machine Installation Instructions

Tools Required:

- Claw Hammer
- Crow Bar
- Forklift (Minimum 2000 lb. Capacity)
- Tool Kit (Included with Machine)
- Utility Knife

Caution

Do not connect the machine to it's power source until instructed to do so in this procedure. The machine will get seriously damaged if you do.

1 Remove upper portion of crate (1 in Figure 4-1).

2 Remove plastic (2) from around machine.

Figure 4-1. Crate Removal

3 Open electrical cabinet (1 in Figure 4-2).

Figure 4-2. Electrical Cabinet Door

4 Remove accessories (1 in Figure 4-3) from electrical cabinet. Figure 4-3 shows the individual components included in the cabinet.

5 Close cabinet door.

Figure 4-3. Accessory Removal

Figure 4-4. Accessories

6 Peel protective plastic (1 in Figure 4-5) off of machine.

7 Remove crate braces (2).

8 Lift machine off of crate base and move machine to desired location.

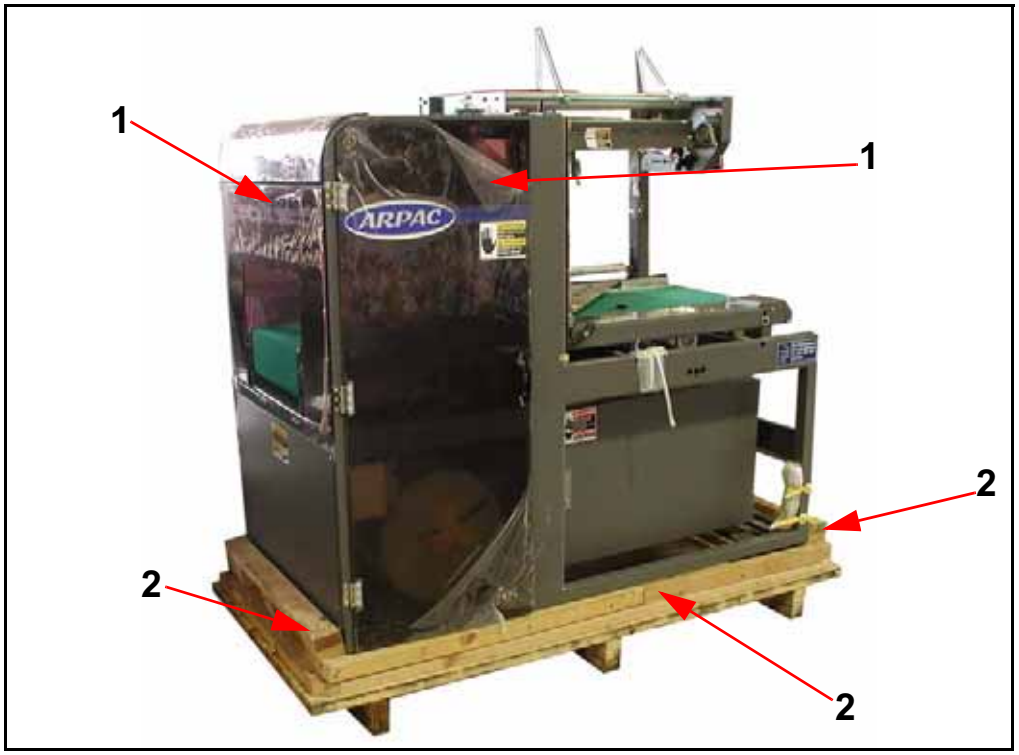

Figure 4-5. Crate Braces

9 Cut and remove shipping ties. (1 in Figure 4-6).

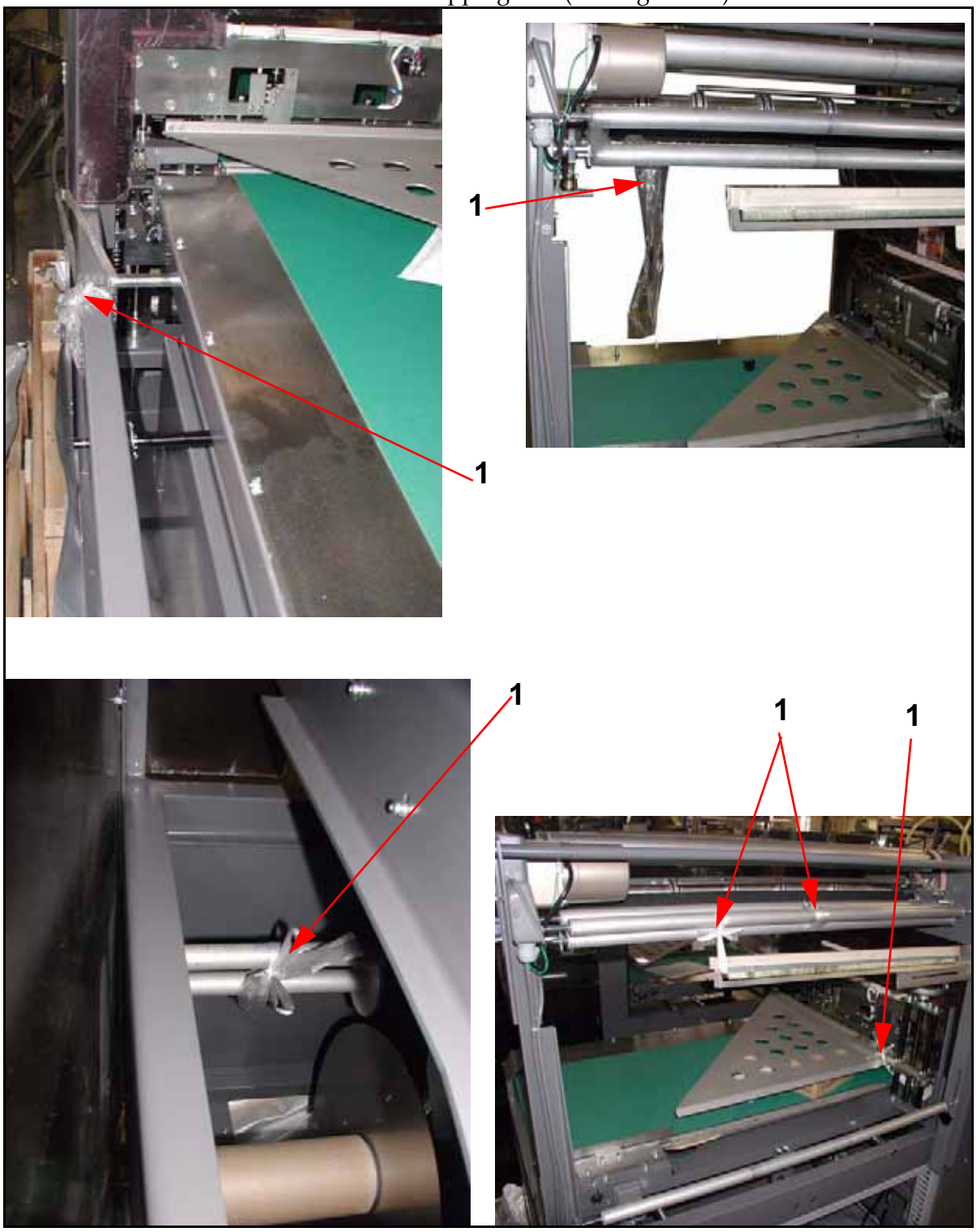

Figure 4-6. Shipping Ties (Typical)

10 Remove cardboard supports (1 in Figure 4-7) from under plow.

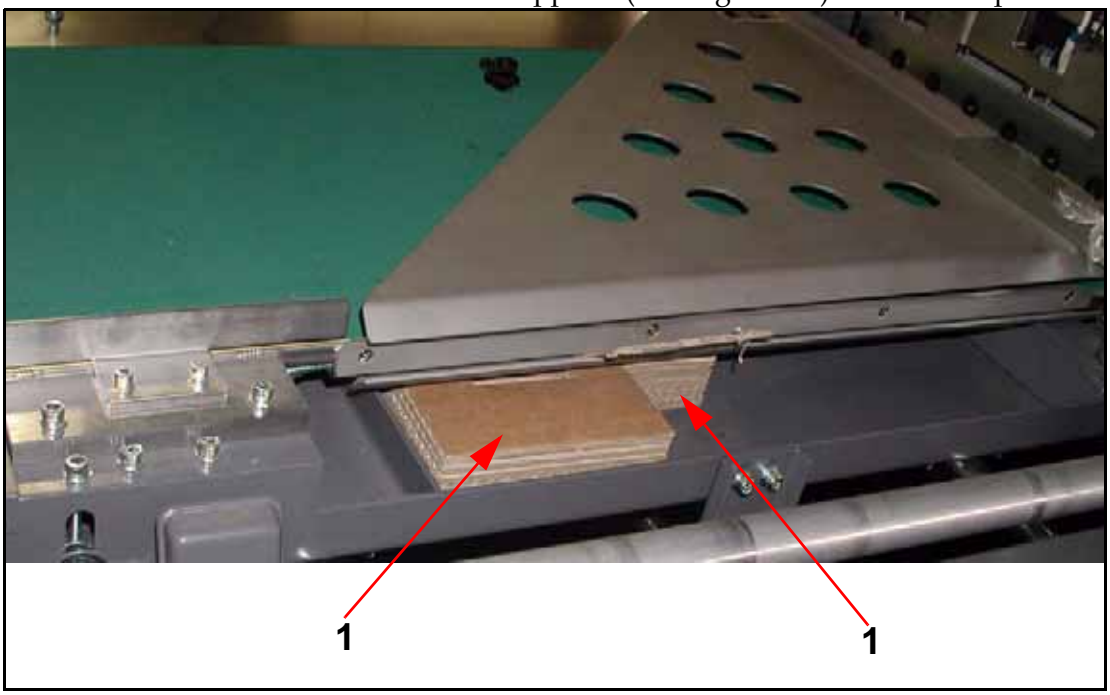

Figure 4-7. Cardboard Supports (Typical)

11 Remove control panel box screws (1 in Figure 4-8) and carefully set control box (2) down.

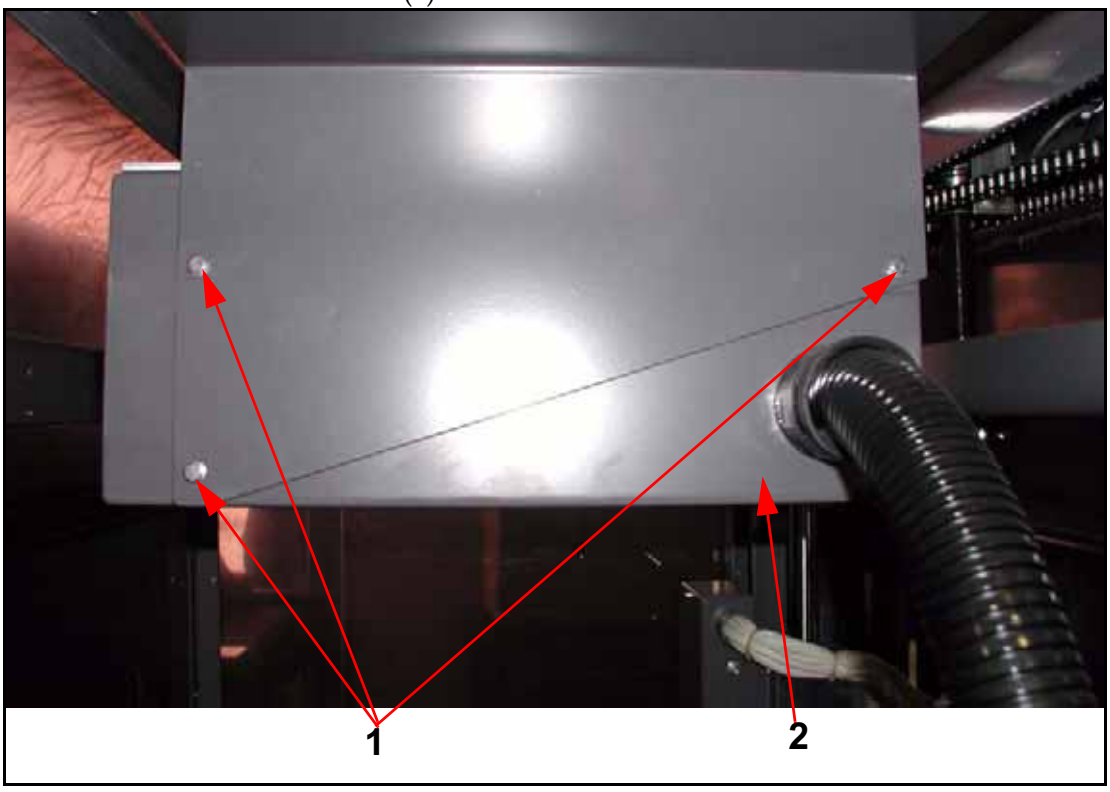

Figure 4-8. Control Box Screws

12 Remove shipping bracket screws (1 in Figure 4-9) and bracket (2).

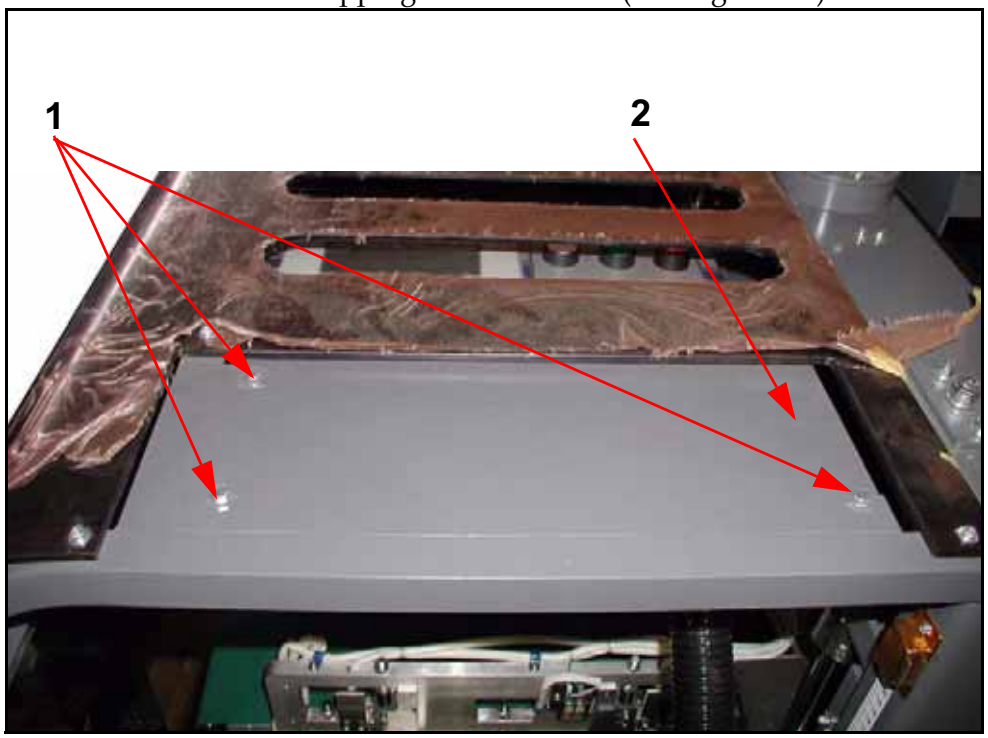

Figure 4-9. Shipping Bracket Removal

13 Mount control box on machine as shown below.

Figure 4-10. Control Box Mounting

14 Mount cranks (1 in Figure 4-11). Secure in place by tightening screws on cranks.

Figure 4-11. Crank Mounting

15 Mount transfer roller assembly (1 in Figure 4-12) with screws (2).

16 Place transfer roller (3) in position shown.

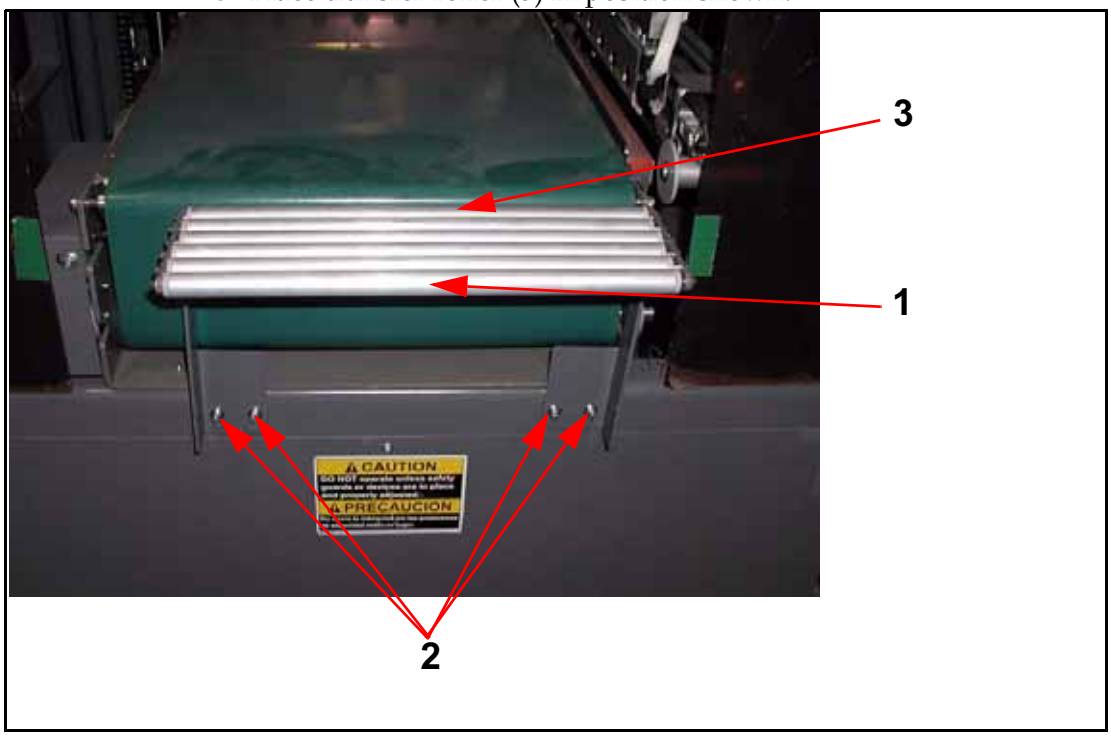

Figure 4-12. Transfer Roller Assembly

17 Place infeed roller (1 in Figure 4-13) in position shown.

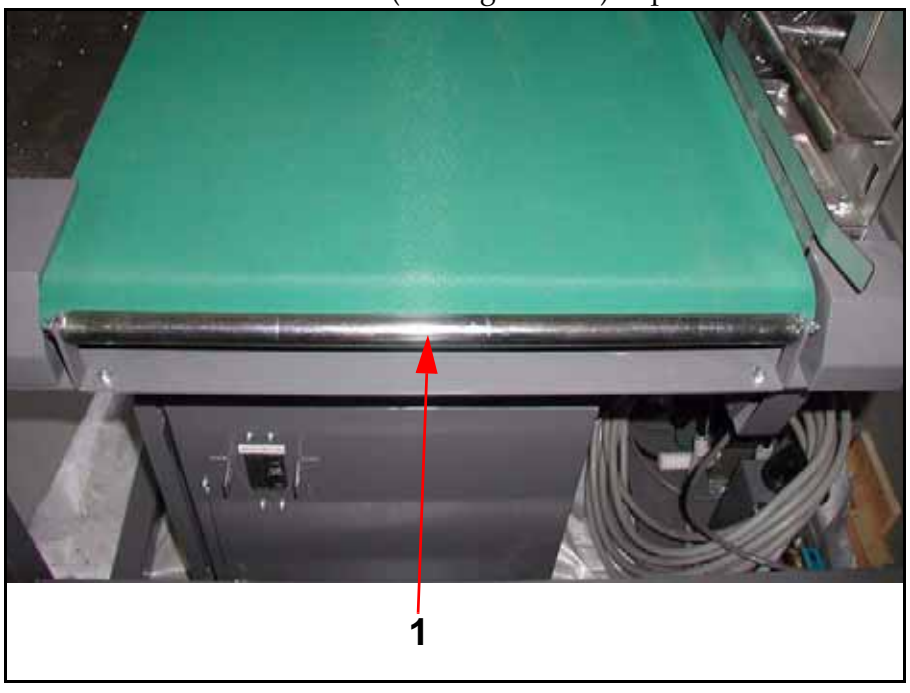

Figure 4-13. Infeed Roller

18 Remove tape (1) from lockout bar (2).

19 Pull lockout bar (2) out of brackets (3).

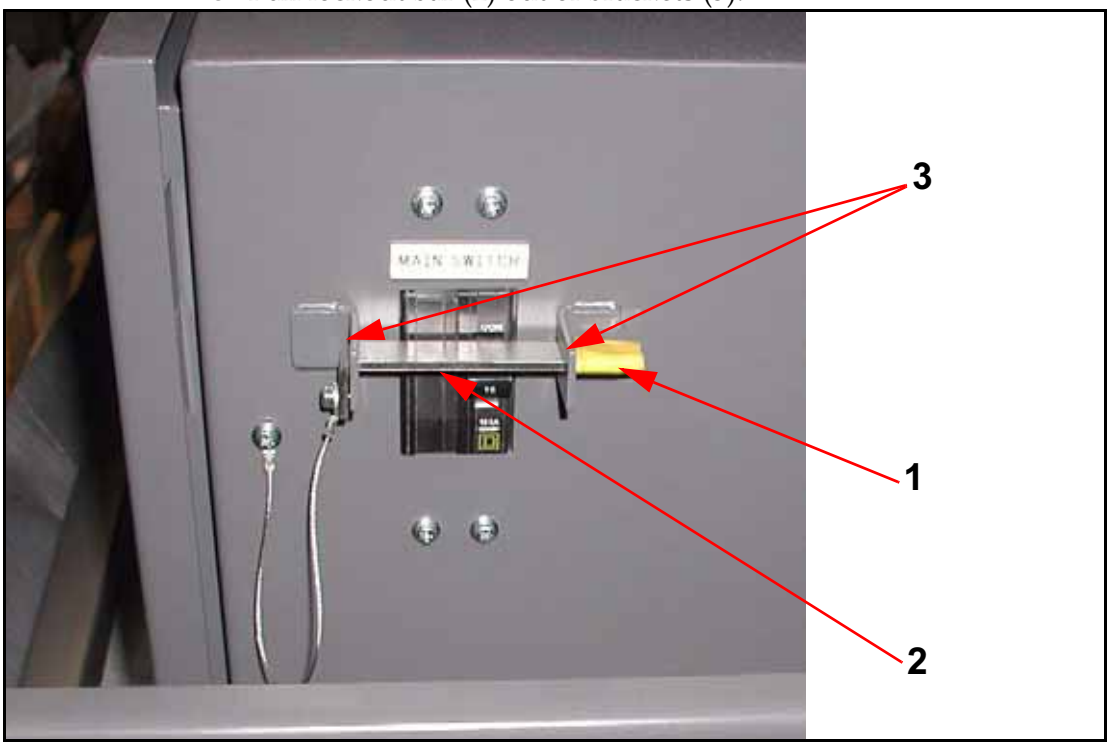

Figure 4-14. Lockout Bar

20 Cut cable ties (1 in Figure 4-15) and pull power cord (2) out of machine.

21 Connect power cord to 230VAC, 60Hz, 15 amp service according to local electrical standards.

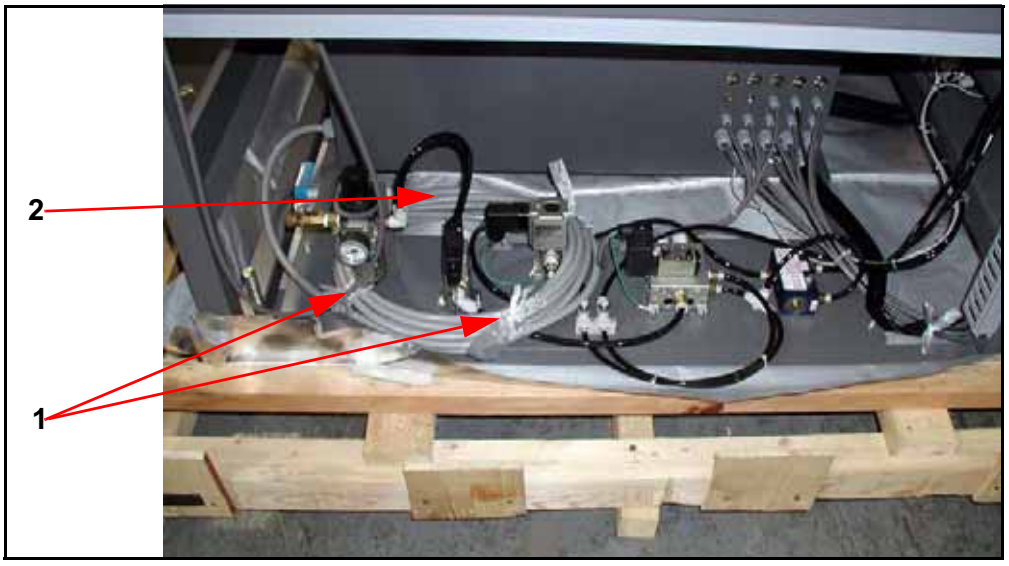

Figure 4-15. Electrical Connection

22 Connect air hose and fitting to position shown below.

23 Set air pressure to 80 PSI.

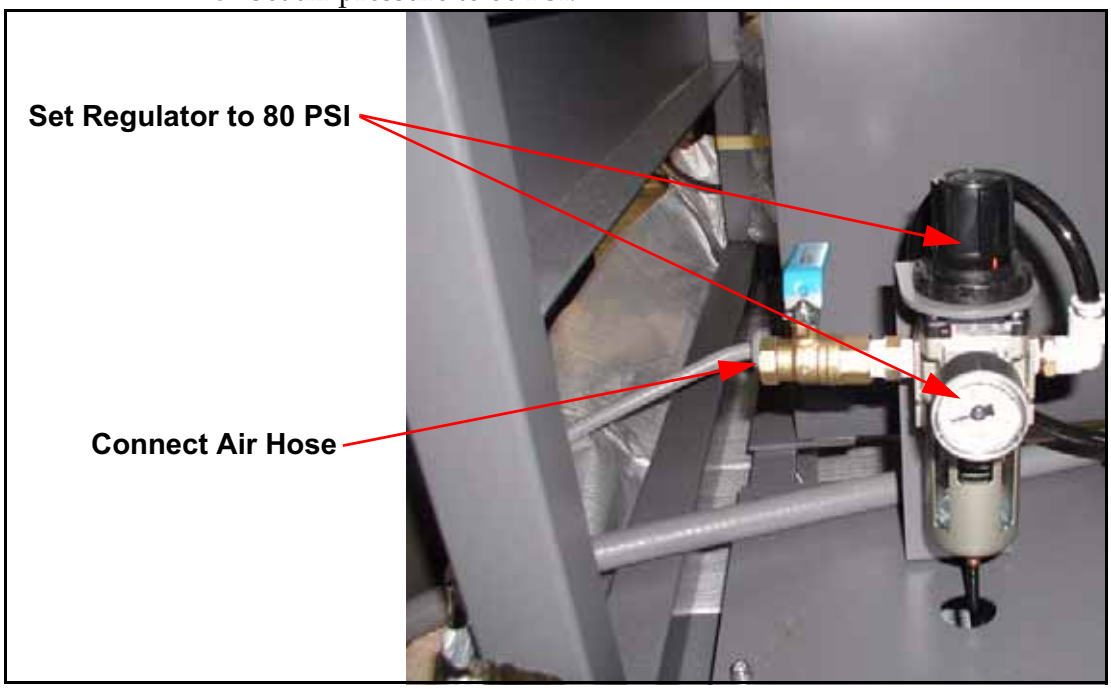

Figure 4-16. Air Hose Connection

24 Load machine with film according to Chapter 5.

25 In optional in-feed lug conveyor is included with machine, install the conveyor according to section starting on the next page.

Procedure is complete.

4.2 In-Feed Lug Conveyor Installation (Optional)

Tools Required:

- Forklift (Minimum 2000 lb. Capacity)
- Pliers
- Small Flat-Tipped Screwdriver
- Wire Strippers

1 Unscrew mounting bolts (1 in Figure 4-17) and remove mounting clamps (2).

2 Lift machine off of crate base and move machine to desired location. Make sure that conveyor's surface is level with machine's surface. Adjust leveling pads on bottom of conveyor as required.
Also, make sure that there is enough space between conveyor and machine to allow lug clearance.

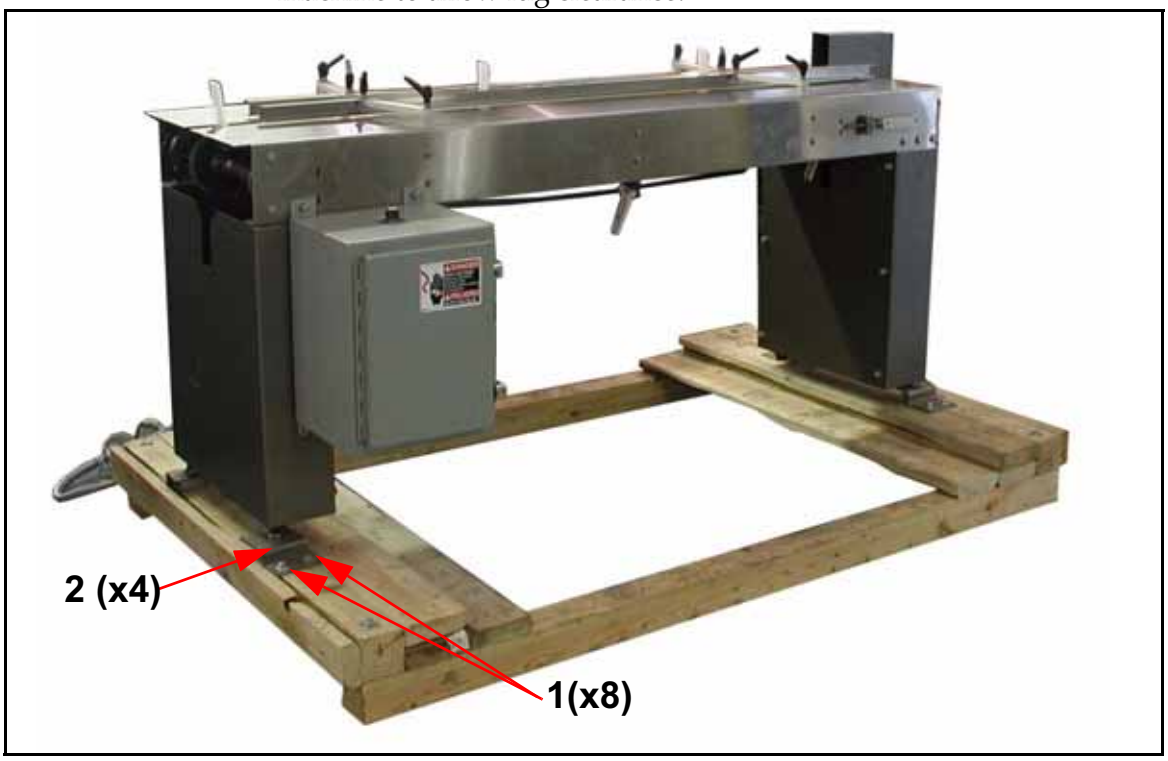

Figure 4-17. Conveyor on Crate Base

3 Connect conduit (1 in Figure 4-18) from conveyor to back of machine.

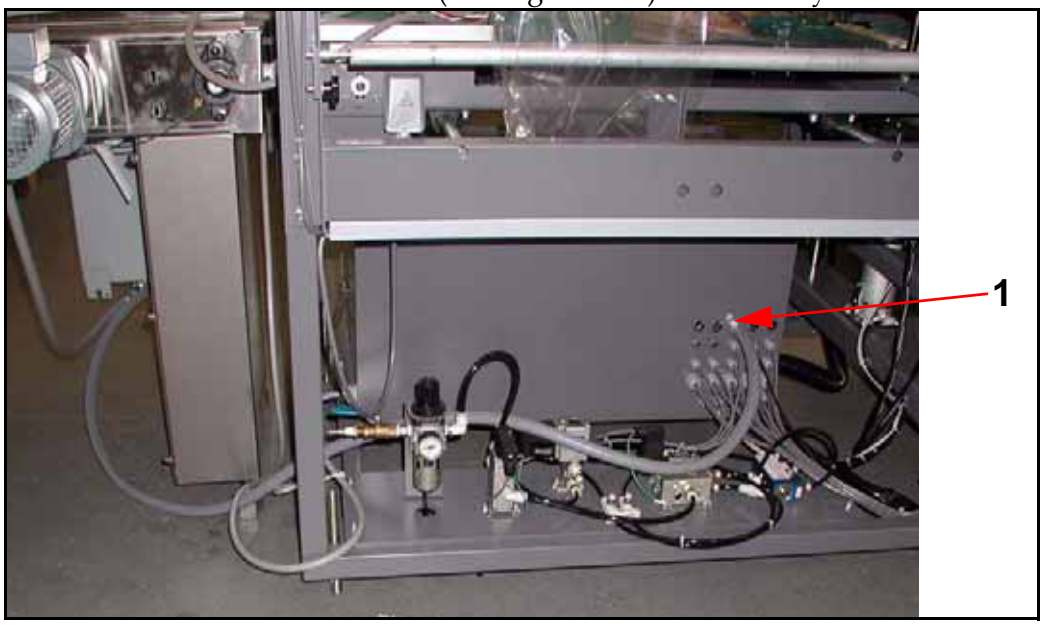

Figure 4-18. Conduit Hookup

4 Connect green wire (1 in Figure 4-19) from conduit to ground block.

5 Connect striped wire (2) from conduit to terminal 20.

6 Connect black wires (3) from conduit to terminals L1 & L2. It does not matter which wire goes in which position.

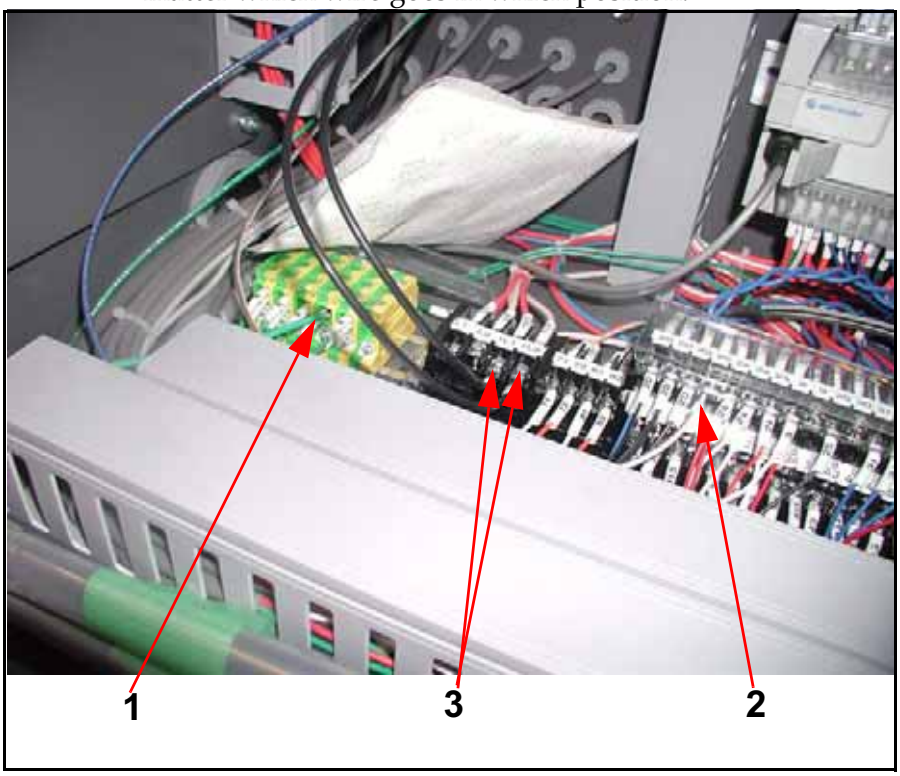

Figure 4-19. Wire Connections

7 Connect blue wire (1 in Figure 4-20) from conduit to terminal 205. It does not matter which wire goes in which position.

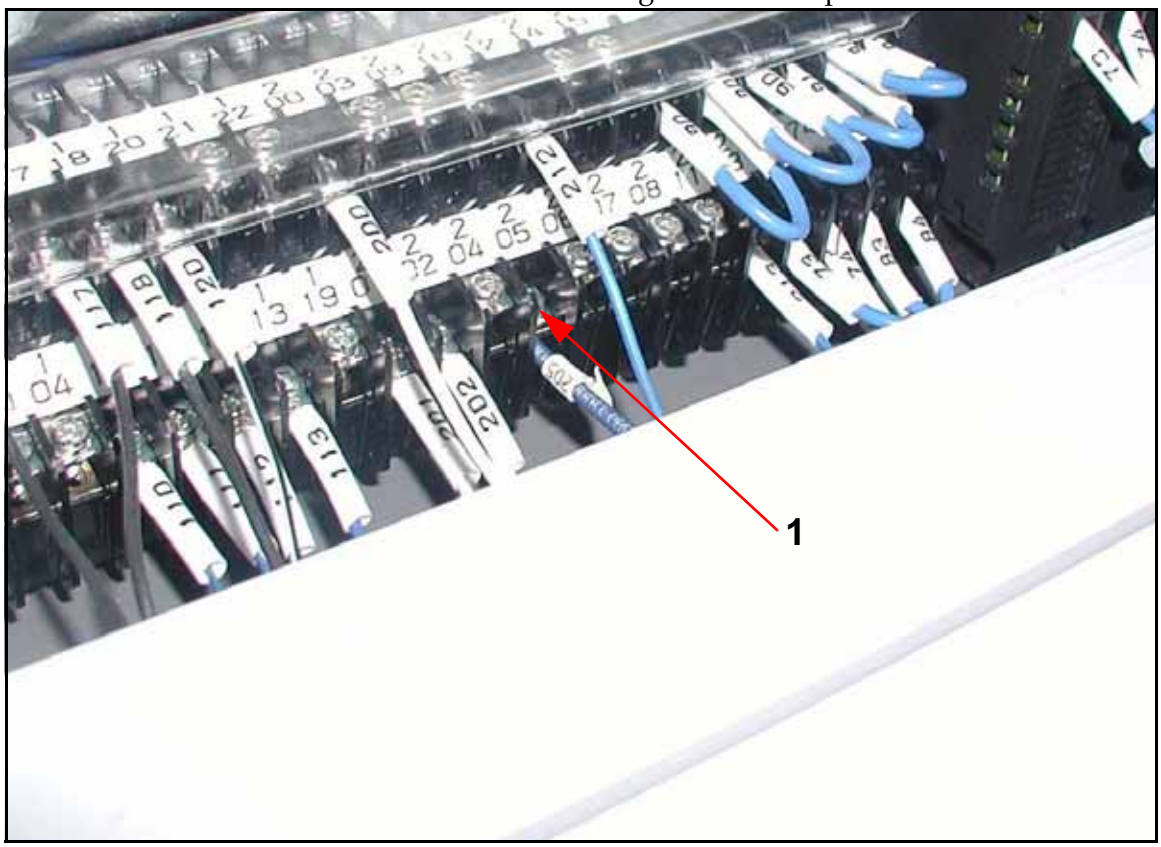

Figure 4-20. Wire Connection

8 Close electrical cabinet.

Procedure complete.

Operation

5

5.1 Introduction

This chapter describes the following:

- What the controls of the machine do.
- How to run the machine.
- How to use the machine's interface.

5.2 Main Disconnect Switch Description

The main disconnect switch (1 in Figure 5-1) turns off all power to the machine.

The switch also acts as the main load circuit breaker for the machine.

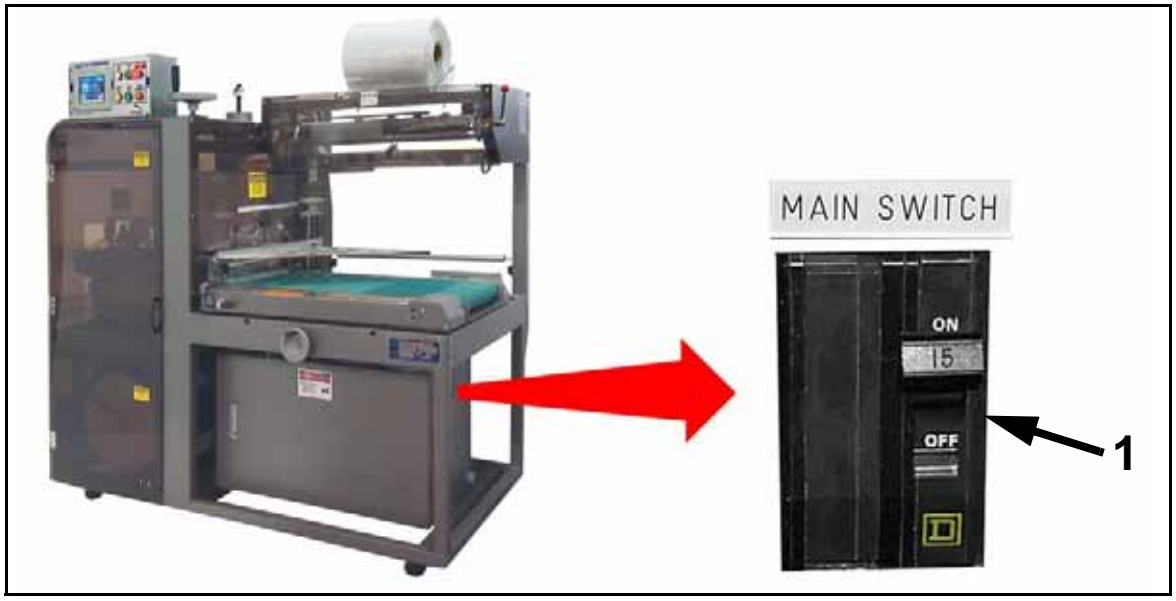

Figure 5-1. Main Disconnect Switch

5.3 Main Control Panel Description

Figure 5-2 below shows the main control panel. The paragraphs that follow describe each control.

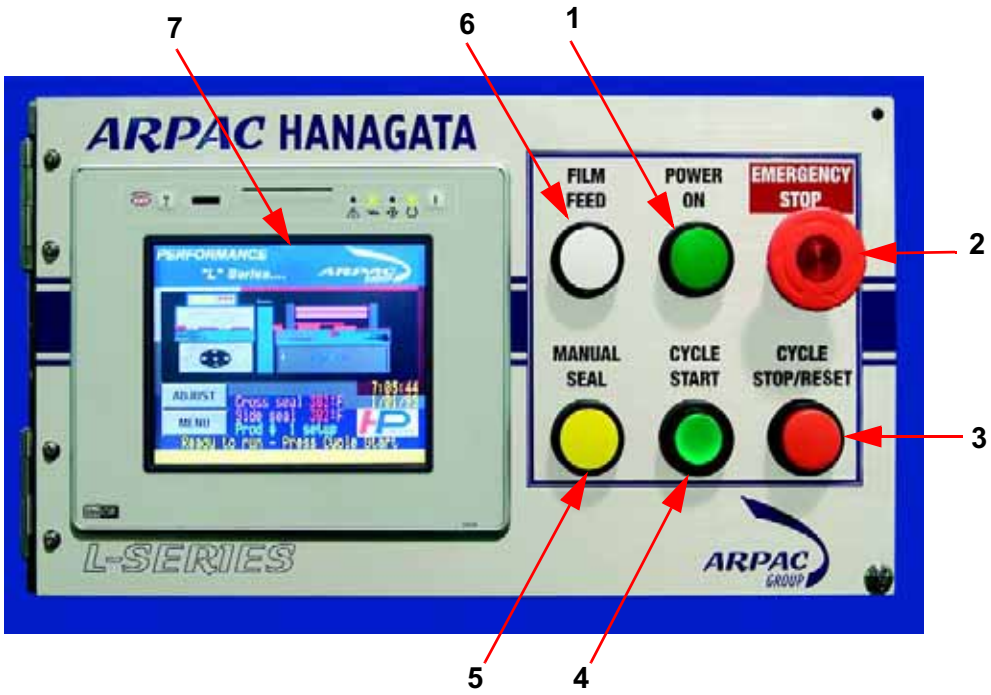

Figure 5-2. Main Control Panel

1 **POWER ON Push Button -** Pressing this button turns the machine on.

2 **EMERGENCY STOP PUSH-Pull Button** - Pressing this button will immediately shut down all electrical devices, with the exception of the controller. The button must be pulled out before restarting the machine. This button may be located at other locations around the machine as well.

3 **CYCLE START Button** - Pressing this push button starts the normal cycle of the machine.

4 **CYCLE STOP/RESET Push Button -** Pressing this button stops the machine after the cycle in process is complete. Pressing this button also resets the machine controller after an emergency stop or fault situation.

5 **MANUAL SEAL -** Pressing this button will make the seal bars close. It is used when threading a new roll of film into the machine. This button is disabled while the machine is in cycle and while the guard doors are open.

6 **FILM FEED** - Pressing this button will make the machine feed out film from the film rack for a predetermined distance and then it will stop. The **MANUAL SEAL** button must then be pressed before the film can be fed again. This button is typically used for film threading.

5.4 Optional Controls

5.4.1 Stack Light

The stack light shows the status of the machine and warns the operator of problems.

Figure 5-3. Stack Light

- **Red solid** - an emergency stop button was depressed.
- **Red flashing** - a fault or alarm situation.
- **Amber solid** (optional) - the film supply is getting low.
- **Green solid** - the machine is in cycle mode.
- **Green flashing** - the machine is going in or coming out of cycle.

5.4.2 Lug In-Feed Conveyor Speed Control Knob

This knob controls the speed of the lug in-feed conveyor.

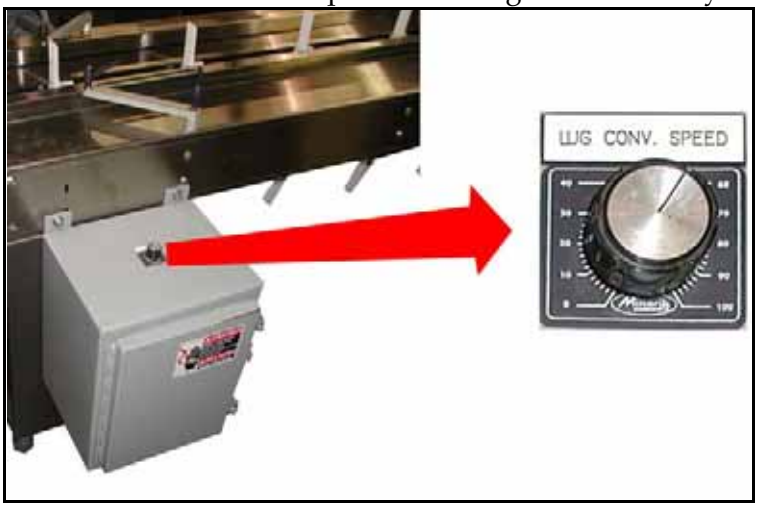

Figure 5-4. Lug In-Feed Conveyor Speed Control Knob

5.5 Operating Procedures

This section describes how to operate the machine.

Startup and Shutdown Procedure Descriptions

Initial Startup:

Applies to the first time the machine is run at the initial startup of each shift or day and after an emergency stop has been initiated.

Quick Startup:

Applies to a start up when the machine is pre-loaded with product or was stopped for a short-term shutdown.

Emergency Shutdown

Applies to times when the machine needs to be shut down immediately. This includes all times when personnel or the equipment are in danger of being damaged.

Short-Term Shutdown

Applies to times when the machine is not shut down completely, such as for a break or to perform certain adjustments.

Long-Term Shutdown

Applies to times when the machine will be shut down completely, such as overnight, weekends or to perform changeover procedures.

5.5.1 Initial Startup

Applies to the first time the machine is run and the initial startup of each shift or day and after an emergency stop has been initiated.

NOTE: If the wrapper is attached to a shrink tunnel, use the tunnel operator manual to start the tunnel before starting the wrapper. Tunnels generally take longer to heat up.

Pre-Start Inspection

1. Make sure the machine and the area around the machine are clear of all products and any other items not directly related to the normal operation of the machine.
2. Ensure any and all persons in the area of the machine are aware the machine is about start.
3. Inspect the belts and seal bars for film and any other debris.

Startup

1. Turn the main disconnect switch to the ON position.

Warning

Stop the operation if you cannot adjust the regulator to read at least 80 psi. Do not try to run the machine. See your supervisor immediately.

2. Open the **master air supply regulator** valve, verify the air regulator gauge is at least 80 psi and adjust when necessary.
3. Pull out **emergency stop** push-pull button.
4. Press the **power On** push button.
5. Select the options to be used for the new product using the operator interface.

Startup

6. Place the new product on the infeed conveyor, and adjust the film former height to the new product height plus 1/8”.
7. Place the new product on the seal conveyor and adjust the seal head height to the new product height plus 1/2”.
8. Adjust the infeed table position to the width of the new product plus 1/2 the product height.

NOTE: Set for minimum speed for unstable products which are difficult to load. Set for maximum speed for easy-to-load, stable product.

9 Set the conveyor speed for the speed that is most appropriate for the product using the operator interface.

10 Adjust the seal bar temperatures for the type and gauge of film to be used.

11 Adjust the seal dwell timer for the type and gauge of film to be used. If unsure, 0.20 seconds is a good starting point.

12 Thread the film. See *"5.7 Film Threading and Sealing" on page 5-10.*

NOTE: If the film is already threaded, adjust the position of the centerfold edge of the film roll to duplicate the value shown on the film former scale.

13 Inspect the machine again making sure all areas around the machine are clear, and the doors and guards are closed and in place and all error messages have been cleared.

14 Place the product on the infeed conveyor, positioned against the product guide and press the **cycle start** push button. The product will move onto the seal conveyor and stop.

15 Press the **cycle stop** push button as soon as the seal conveyor stops.

16 Slide the scrap finger on the takeaway arm to within approximately 2 inches of the leading edge of the product on the seal conveyor.

Startup

17 Press the **manual seal** push button

18 Remove the product now sealed in film.

*NOTE: In many plants, the operator is required to call out **"clear"** before starting the machine.*

For the first few minutes after the machine starts, we recommend the operator pay close attention to the machine and the products.

19 Press the **cycle start** push button.

5.5.2 Quick Startup

Applies to a start up when the machine is pre-loaded with product or was stopped for a short-term shutdown.

Pre-Start Inspection

1. Make sure the machine and the area around the machine is clear of all products and any other items not directly related to the normal operation of the machine.
2. Ensure that any and all persons in the area of the machine are aware that the machine is about to start.
3. Inspect the belts and seal bars for film and any other debris.

Startup

1. Check that the film is threaded properly.
2. Make sure the infeed conveyor is full.
3. Inspect the machine again. Be sure all conveyors and areas around the machine are clear, the doors and guards are closed and in place, and all error messages have been cleared.

*NOTE: In many plants, the operator is required to call out **"clear"** before starting the machine.*

For the first few minutes after the machine starts, we recommend the operator pay close attention to the machine and the products.

4. Press the **cycle start** push button.

5.5.3 Emergency Shutdown

Applies to times when the machine needs to be shut down immediately. This includes all times when personnel or the equipment are in danger of being damaged.

Warning

When the emergency stop push-pull button is pressed, the machine will stop immediately. In most cases product will stop in a hot tunnel. Is is very important to remove the products from the tunnel as soon as possible. Products left in a hot tunnel for any length of time will be damaged, and depending on the contents, may explode.

1. Press any **emergency stop** push-pull button.
2. If the wrapper is attached to a tunnel, take care of the emergency situation and remove product from the tunnel as soon as possible.

5.5.4 Short-Term Shutdown

Applies to times when the machine is not shut down completely, such as for a break or to perform certain adjustments.

1. Stop the flow of product to this machine.
2. After the last product has cleared the seal conveyor, push the **cycle stop/reset** push button.

5.5.6 Long-Term Shutdown

Applies to times when the machine will be shut down completely, such as overnight, weekends or to perform changeover procedures.

1. Stop the flow of product to this machine.
2. After the last product has cleared the seal conveyor, push the **cycle stop/reset** push button.
3. Press the **emergency stop** push-pull button.
4. Place the **main power** switch to the OFF position.
5. Close the **master air supply regulator** valve.

5.6 Film Roll Installation

1. Press the **cycle stop** push button.
2. Select the proper film size for the product being run. See Film-Sizing Formula. If using a different size film than was previously on the machine, loosen the wing nuts on the film guides and slide them outward.
3. Place the film roll on the cradle so that the film unwinds in the proper direction and the centerfold is facing the scale side of the cradle.
4. Using the scale, adjust the position of the film roll so the center-folded edge is placed on the scale equal to the value of the film-former scale.

NOTE: It is important to place the edge of the film - not the edge of the film core - in the proper place on the scale. If the film roll core is used to align the film to the scale, the film will not be pulled through the film feed system properly and will affect the machine's ability to wrap the product.

5. Position the film guides so they hold the film in place and tighten the wing nuts. There should be approximately 1/8 "clearance between the film roll core and the film guides.

NOTE: The perforator wheels are held in place by set screws. Do not touch the perforator pins.

6. Only when necessary, adjust the position of the perforating wheels by sliding them on the shaft.

5.7 Film Threading and Sealing

5.7.1 Threading the Film Rack

NOTE: It is easiest to thread the film through the machine after adjusting the position of the film former, the seal bars and the infeed conveyor. This will allow for uninterrupted flow of the film-threading process and result in minimal adjustments.

1 Thread the film through the film rack. Refer to Figure 5-5 below.

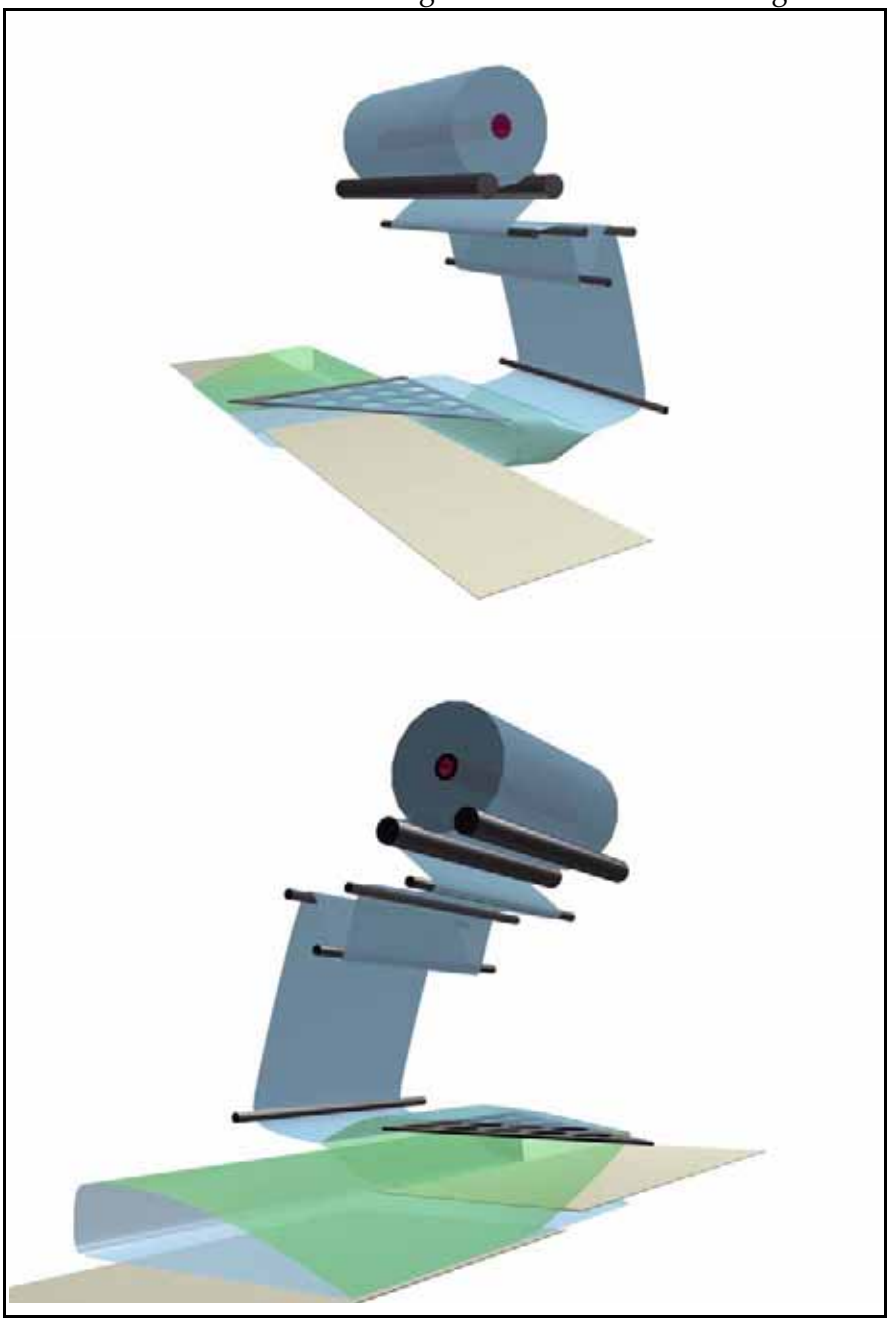

Figure 5-5. Standard Film-Threading Diagram

2 When threading the film, open the pinch rollers (film feed rollers) using the red film feed cam handle.

3 Using the adjustment locking knob, position the film centering guide roller so that it is centered between the two plates on the film-forming plow.

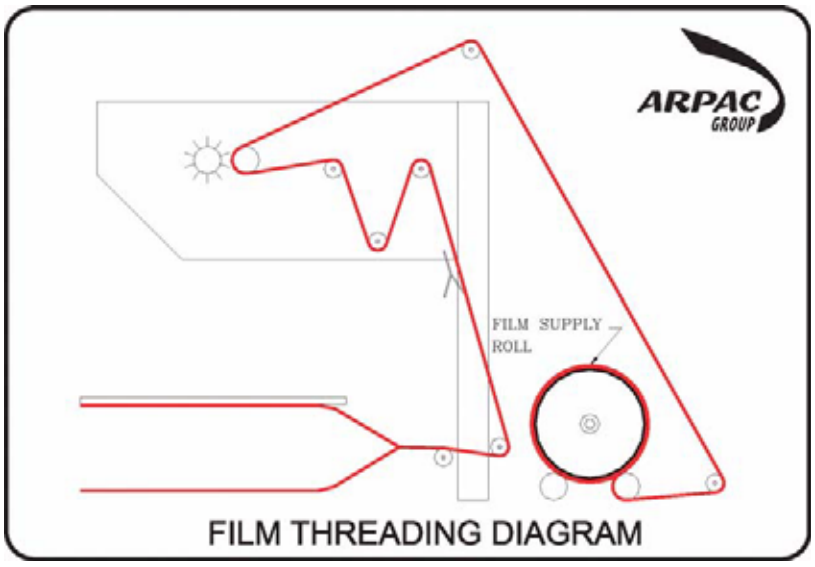

Figure 5-6. Film Threading with Optional Lower Cradle

4 Close the pinch rollers using the red film feed cam handle.

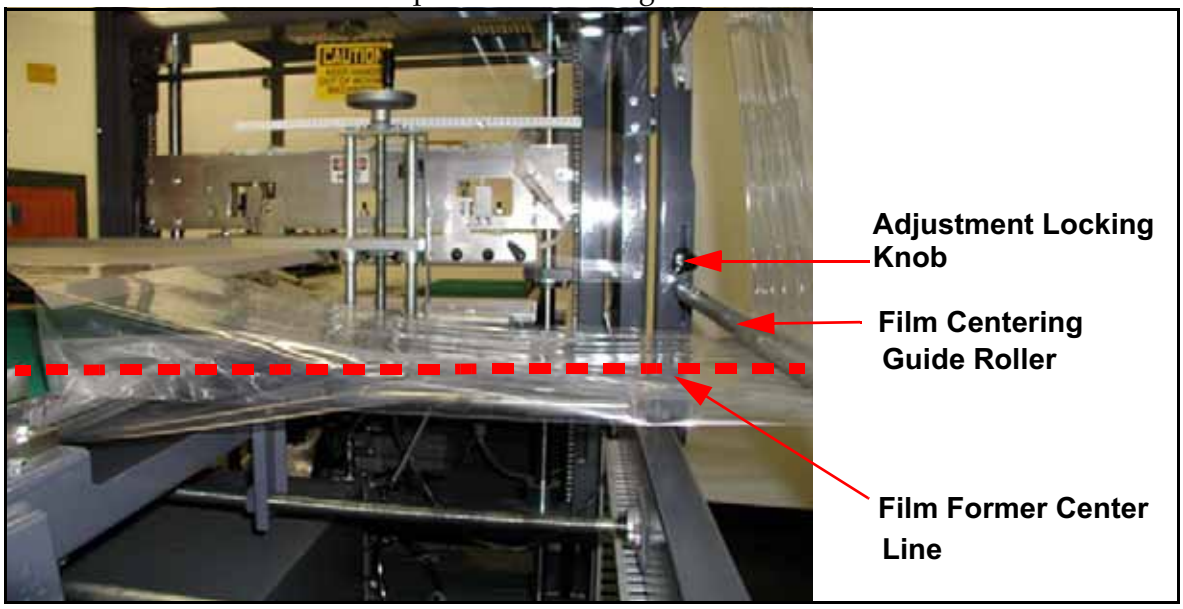

Figure 5-7. Adjustment Locking Knob, Guide Roller and Film Former Center Line

5.7.2 Threading the Film Former

1 Pull a length of film from the film rack until it feeds smoothly through the film feed assembly. Cut the film so that there is approximately 6 inches of film past the edge of the infeed conveyor.

Figure 5-8. Threading the Film Former

2 Open the end of the film as shown in the picture.

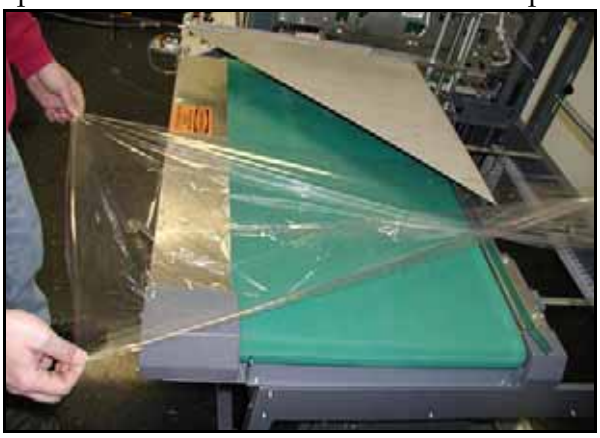

Figure 5-9. Threading the Film Former (continued)

3 Feed the bottom ply of film between the bottom plate and the infeed conveyor.

Figure 5-10. Threading the Film Former (continued)

4 Use the following pictures to thread the film former.

Figure 5-11. Threading the Film Former (continued)

Figure 5-12. Threading the Film Former (continued)

Figure 5-13. Threading the Film Former (continued)

Figure 5-14. Threading the Film Former (continued)

Figure 5-15. Threading the Film Former (continued)

5.7.3 Threading the Sealing Area

1 Pull the film through the seal assembly until the film feeds smoothly through the film former.

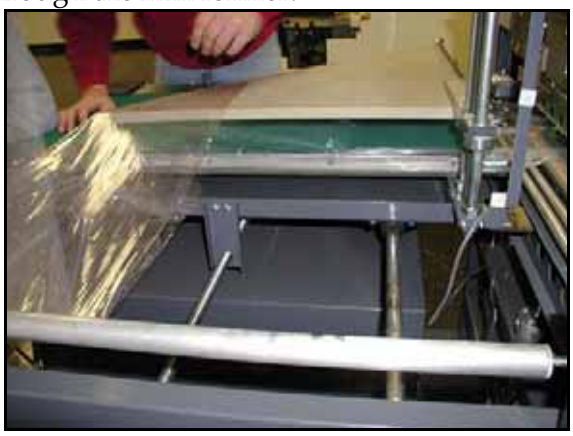

Figure 5-16. Threading the Sealing Area

2 Move the dog ear eliminator guide all the way to the exit end of the scrap removal belts.

Figure 5-17. Threading the Sealing Area (continued)

3 Thread the film through the pinch rollers on the scrap removal system and reposition the dog ear eliminator guide so that it is 1/4" past the leading edge of the product.

Figure 5-18. Threading the Sealing Area (continued)

NOTE: It is easiest to thread the film through the machine after adjusting the position of the film former, the seal bars and the infeed conveyor. This will allow for the uninterrupted flow of the film-threading process and result in minimal adjustments.

5.7.4 Threading the Trim Removal System

1 Feed approximately 5 feet of film through the sealing area. To do this, alternately press the **FILM FEED** push button to create a film pouch, then make a manual seal removing the pouch from the machine. Repeat several times until the tail is long enough to tie to the rewind spool.

NOTE: *Do not feed more than 20" of film before creating a manual seal. Holding the film feed push button will cause the film feed pinch rollers to rotate and pull the film. When a predetermined amount of film is fed, the button is disabled. You must make a manual seal before feeding additional film. This feature prevents the film pouch from getting caught on the dog ear eliminator guide.*

2 Thread the film tail over the idler roller, under the scrap dancer bar and over the idler roller. Attach it to the Rewind spool. See the Trim-Threading Diagram.

Figure 5-19. Threading the Trim Removal System

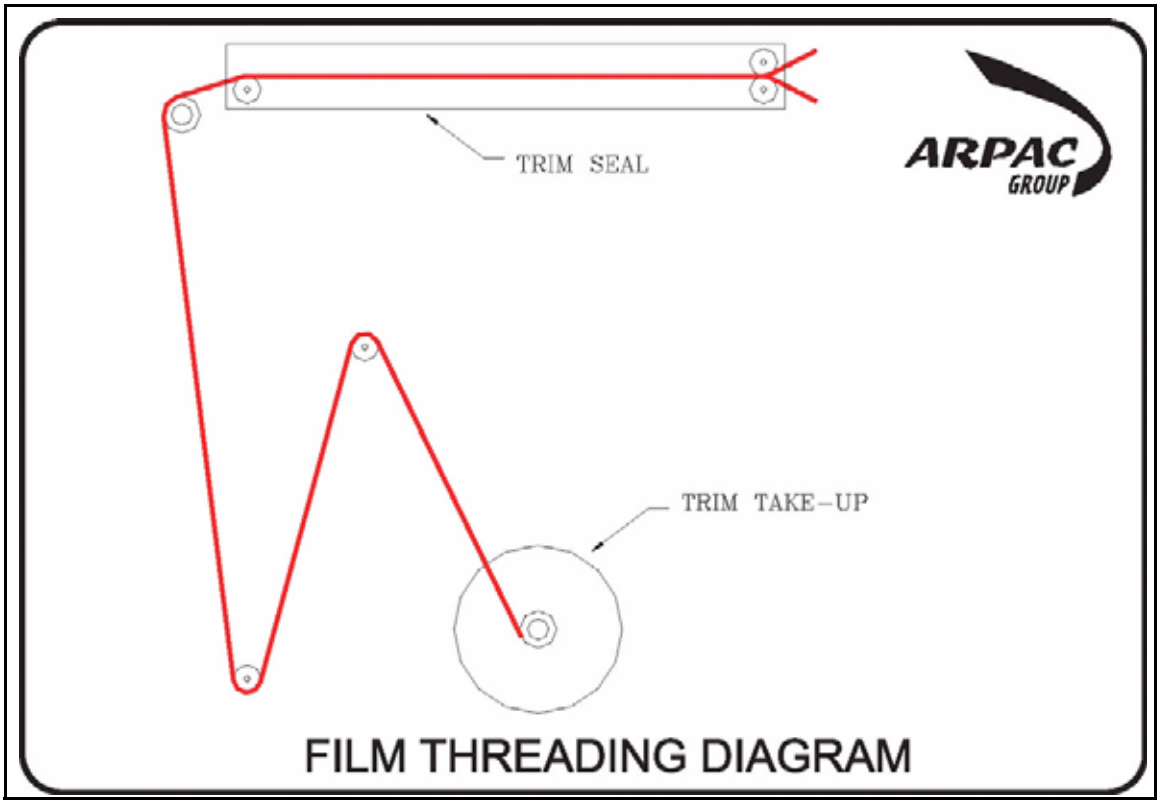

Figure 5-20. Trim-Threading Diagram

5.7.5 Setting Up Registration for Printed Film

This section describes how to set up the optional registration system for feeding printed film with registration marks.

1. Feed the film through the machine as if it were clear film - as described in the previous sections.
2. On the machine interface, go to the MACHINE OPTIONS screen and turn PRINT REGISTRATION on.

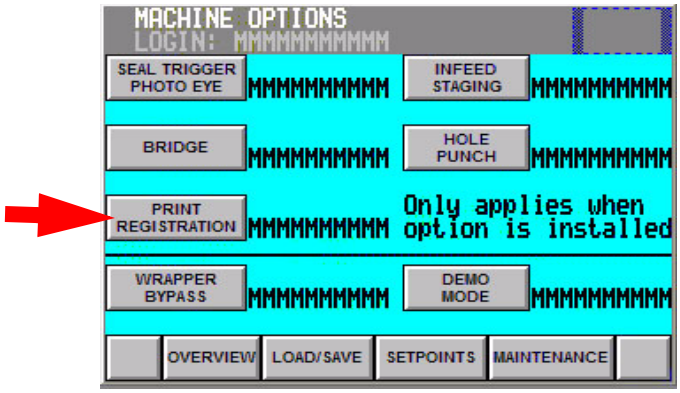

Figure 5-21. PRINT REGISTRATION field

3. Press the FILM FEED button until a registration mark is in the sensor. The red output LED on the sensor should light up as the registration mark passes through the sensor. If it does, go to the next step. If it does not, reset the sensor as follows:

   Web color/background is Lighter than the mark. (Refer to Figure 5-22 on page 5-19).

   Position the detection zone of the sensor between the registration marks and press the **LIGHTER THAN MARK** button to initiate the AUTOSET routine. The green LED AUTOSET indicator will rapidly blink until the proper setting is achieved. The red LED output indicator and output transistors will turn “OFF”. When the mark passes through the detection zone, the red LED output indicator and output transistors will turn “ON” for the duration of time that the mark is in view.

NOTE: Detection of a Dark colored mark on a light colored background is impossible if the light source can not penetrate through the light colored background. If this condition occurs during a light colored background AUTOSET routine, both the red and green LEDs will flash twice.

Web color/background is Darker than the mark. (Refer *to* Figure 5-22).

Position the detection zone of the sensor between the registration marks and press the **DARKER THAN MARK** button to initiate the Autoset routine. The green LED AUTOSET indicator will rapidly blink until the proper setting is achieved. The red LED output indicator and output transistors will turn "OFF".

When the mark passes through the detection zone, the red LED output indicator and output transistors will turn "ON" for the duration of time that the mark is in view.

INVERTING the OUTPUT
Depress both buttons for 3 seconds.

Figure 5-22. Detection Zone is Lighter than the Mark

Figure 5-23. Detection Zone is Darker than the Mark

4 Loosen the clamp knobs on the sensor assembly and move the sensor to the mid-point of its up-down range.

NOTE: If at anytime during this procedure, the static diffuser bar blocks the repositioning of the sensor, remove the bar and reposition it after the final sensor position is set.

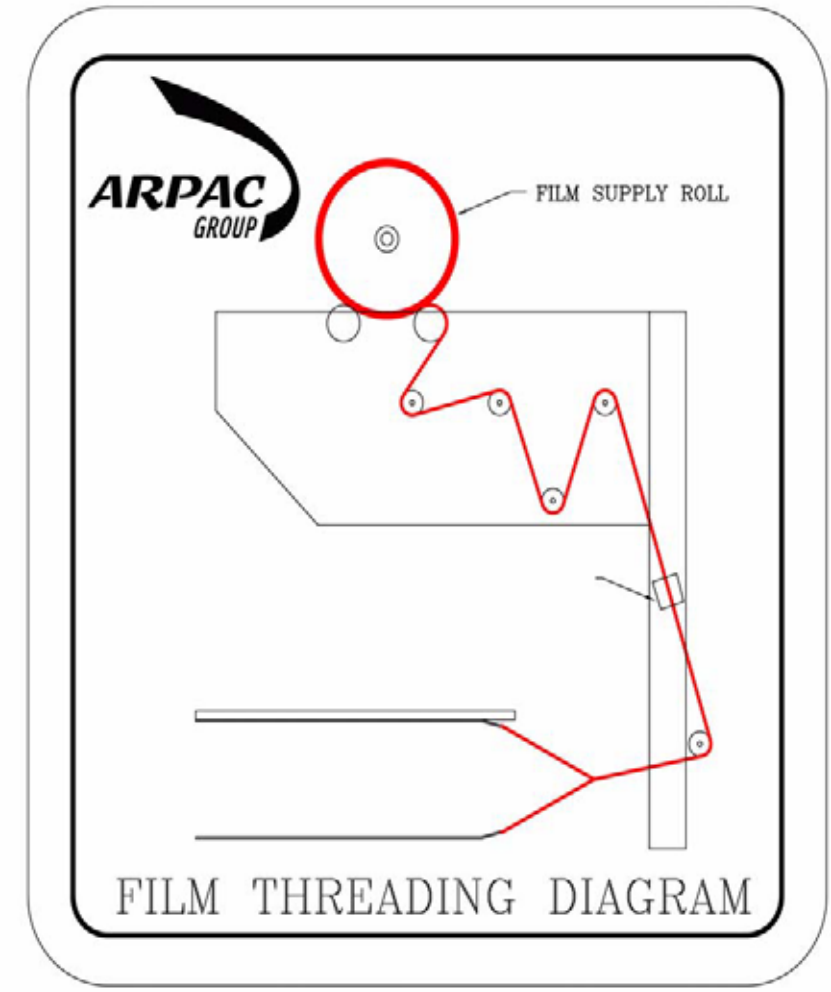

Figure 5-24. Film Threading Diagram

5 Press the **FILM FEED** button to advance the film (without product) so that the clear area between prints on the film is precisely centered beneath seal bar.

6 Press the **MANUAL SEAL** button to cut the pouch off of the film trim.

7 Loosen the clamp knobs on the sensor assembly and move the sensor so that it is approximately 1" above the registration mark it is closest to.

8 On the machine interface, go to the SETPOINTS - 2 of 5 screen and set **SEAL POSITION** to the numerical value of 1, not 1 inch - just 1.

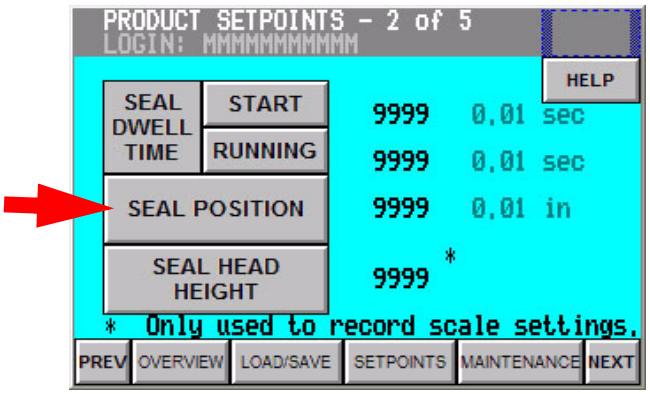

Figure 5-25. SEAL POSITION Field

9 Go to the SETPOINTS - 4 of 5 screen and set **DELAY TO START PINCH ROLLERS** to 1.

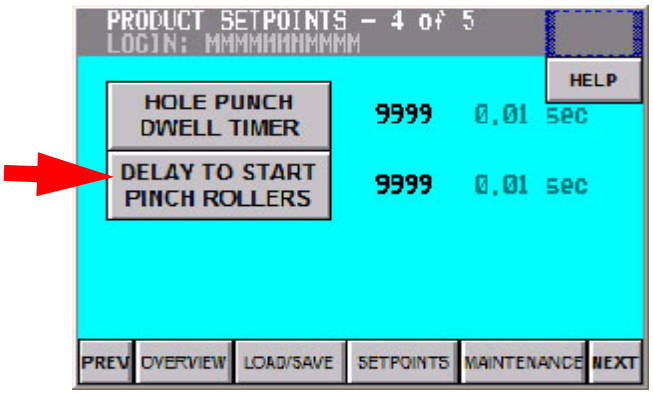

Figure 5-26. DELAY TO START PINCH ROLLERS Field

10 On the machine interface, go to the SETPOINTS - 5 of 5 screen and set **FILM PRE-FEED TIMER** and **FILM POST-FEED TIMERS** to 0.

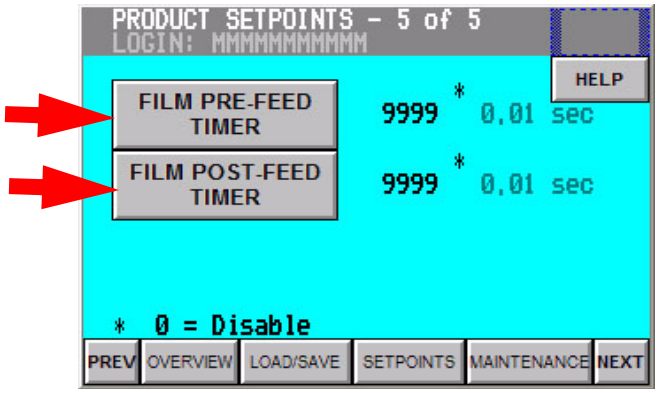

Figure 5-27. FILM PRE and POST -FEED TIMER Fields

11 Cycle start the machine and run one or two products. Inspect where the seal occurred - it should occur exactly between prints. Adjust the position of the sensor to correct. Move the sensor up for an earlier seal or down for a later seal. The distance that the sensor is moved is exactly the same distance that the seal will be moved.

12 Run a few more products and adjust accordingly. To adjust the product's position is the bag, adjust the **DELAY TO START PINCH ROLLERS** value on SETPOINTS - 4 of 5 screen. Increase the value to advance the product's position in the bag or decrease the value to retard the products advance.

13 Copy and save all settings in the LOAD AND SAVE menu. This will only work if the machine is in cycle stop ready to run mode

SPECIAL NOTE: When replacing the roll or after clearing a jam, press the FILM FEED button until the registration mark is approximately 1" below the sensor. From this point, the machine will recover its position automatically when the CYCLE START button is pressed. If the mark is not within this range, the machine will not recover its position and the registration will not be aligned correctly.

5.8 Operator Interface

The operator interface allows the operator or maintenance technician to change and monitor the machine's performance and to change the type of product being run. When the machine is first turned on, the menu below will appear. This is the Overview menu. The menu is made up of two pages. Press the **PREV** or **NEXT** buttons in the lower corners of the menu to toggle between pages.

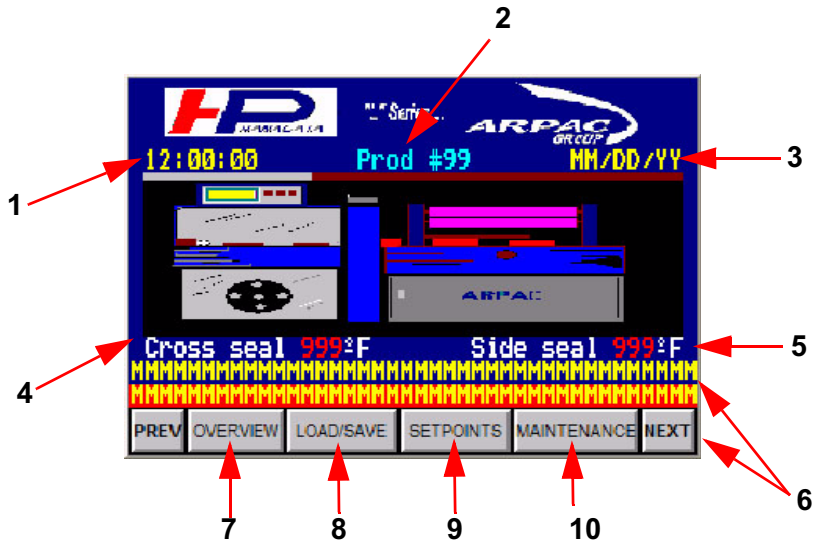

Figure 5-28. Operator Interface Screen

1. **Time:** This shows the current time.
2. **Product Type:** This shows the product type being run - defined as a number and programmed by the maintenance technician.
3. **Date:** This shows the current date.
4. **Cross Seal Temperature:** This shows the current temperature of the cross seal bar.
5. **Side Seal Temperature:** This shows the current temperature of the side seal bar.
6. **Message Windows:** These windows show various alarm messages and non-emergency informational messages generated by the machine.
7. **OVERVIEW:** Pressing this button will make the first OVERVIEW menu appear as you are in another menu.
8. **LOAD/VIEW:** Pressing this button will make the main LOAD/SAVE menu appear. This menu will be covered later.
9. **SETPOINTS:** Pressing this button will make the main SETPOINTS menu appear. This menu will be covered later.
10. **MAINTENANCE:** Pressing this button will make the main MAINTENANCE menu appear. This menu will be covered later.

5.8.1 Overview Menus

The last two buttons on the menu, as previously mentioned, are the **PREV** and **NEXT** buttons located in the lower corners of the menu. If any menu has more than one page, these buttons allow you to scroll through the various pages.

Press the **NEXT** button to see the second page of the OVERVIEW menu. This page has the following features:

1. **LOGIN:** Pressing this button opens a separate numerical menu that prompts you to enter a password number to access various levels of data change privileges. The levels are as follows:
   a. No login is necessary to Load a new product. This feature is found on LOAD/SAVE menu #1.
   b. An Operator must login to change data associated with the Save product function (LOAD/SAVE #2) and SETPOINTS menus. This includes copying and saving data.
   c. The Maintenance login enables access to all control functions on the interface.
2. Be sure to press the **RETURN** key after entering password. The level of login will be shown at the top of the menu.

3 **LOGOUT:** Pressing this button logs you out so no one else can have your privileges after you leave the machine.

4 **HELP:** Pressing this button will lead you to a series of help menus that offer a variety of information about the machine.

5 **PRODUCTION DATA:** Pressing this button will make the PRODUCTION DATA menu appear. This menu shows various production values and can only be reset by a person logged in as a maintenance person.

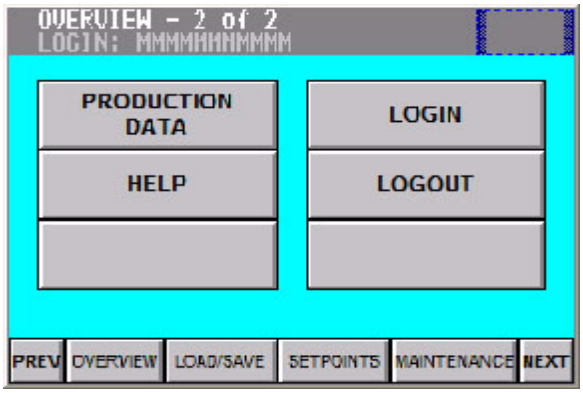

Figure 5-29. OVERVIEW - 2 of 2 Screen

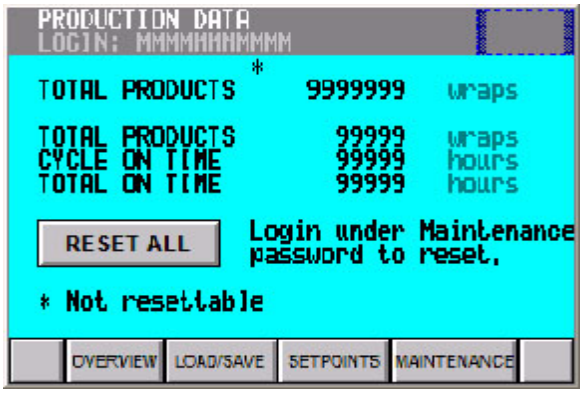

Figure 5-30. PRODUCTION DATA Screen

5.8.2 LOAD/SAVE Menus

Press the **LOAD/SAVE** button at the bottom of the menu. This will make the PRODUCT LOAD/SAVE menu appear. This two-page menu is used to change the machine's settings when running a new or different type of product through the machine. Press the **PREV** or **NEXT** buttons to scroll between the menus. The menus have the following features:

1 **SAVE CURRENT SETUP:** Pressing this button will save the selected menu setpoints for the product file number.

2 **CHANGE PRODUCT:** Pressing this button will make a separate menu appear where you can select a preset product file number.

3 **PRODUCT # TO COPY CURRENT SETTINGS INTO:** Pressing this button allows you to copy the setpoints of the currently selected file into a new file. This feature is most useful for creating files that are similar but not quite the same. For example, this would be the case when two different products had the same width and length but different heights.

4 **CONFIRM COPY:** Press this button to confirm the COPY process.

5 **HELP:** Pressing this button will lead you to help files that may answer any questions you may have about the copy and selection process.

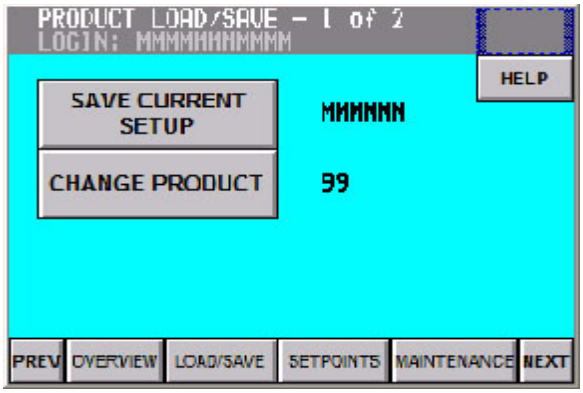

Figure 5-31. PRODUCT LOAD/SAVE 1 of 2 Screen

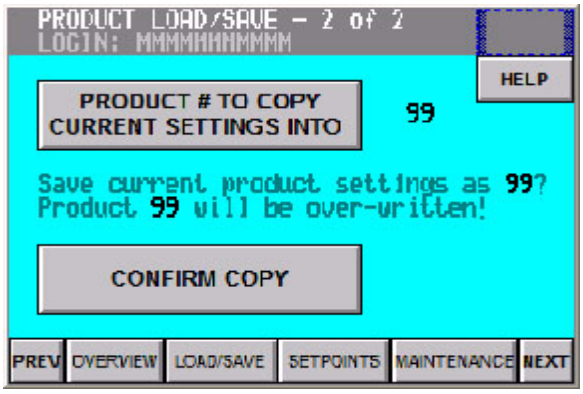

Figure 5-32. PRODUCT LOAD/SAVE 2 of 2 Screen

5.8.3 SETPOINTS Menu

Press the **SETPOINTS** button at the bottom of the menu. This will make the SETPOINTS menu appear. This five-page menu is used to change the machine's setpoints. Press the **PREV** or **NEXT** buttons to scroll between the pages. The first page has the following features:

1. **CROSS SEAL TEMPERATURE:** Pressing this button will open a numerical menu that allows you to set the cross seal temperature. Be sure to press the **RETURN** key after setting the temperature.
2. **SIDE SEAL TEMPERATURE:** Pressing this button will open a numerical menu that allows you to set the side seal temperature. Be sure to press the **RETURN** key after setting the temperature.
3. **CONVEYOR SPEED:** Pressing this button will open a numerical menu that allows you to set the conveyor speed. Be sure to press the **RETURN** key after setting the speed.

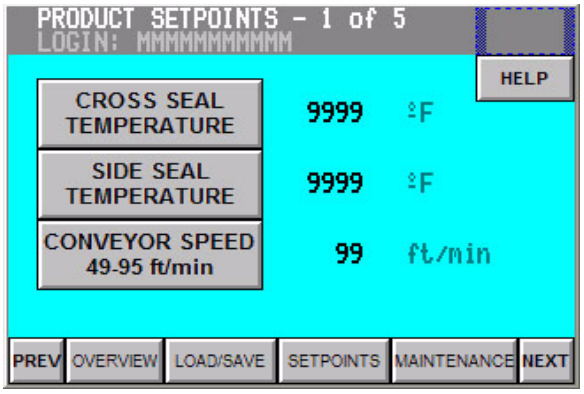

Figure 5-33. PRODUCT SETPOINTS 1 of 5 Screen

Press the **NEXT** button. The second page will appear.

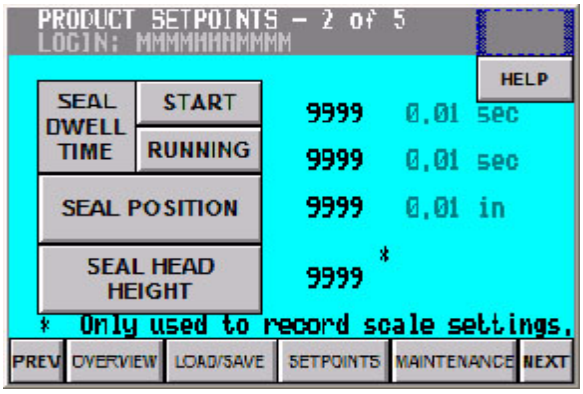

Figure 5-34. PRODUCT SETPOINTS 2 of 5 Screen

The second page has the following features:

1. **SEAL DWELL TIME - START:** Pressing this button will open a numerical menu that allows you to set the heat seal dwell time for the first five parts that are sealed. Be sure to press the **RETURN** key after setting the time.
2. **SEAL DWELL TIME - RUNNING:** Pressing this button will open a numerical menu that allows you to set the heat seal dwell time for the remaining parts after the first four parts are sealed. Be sure to press the **RETURN** key after setting the time.
3. **SEAL POSITION:** Pressing this button will open a numerical menu that allows you to set the distance between the heat seal and the product. Be sure to press the **RETURN** key after setting the position.
4. **SEAL HEAD HEIGHT:** Pressing this button will open a numerical menu that allows you to record the seal head height. Read the seal head height scale (refer to Figure 5-35), multiply this by 10 and enter the number. For example, if the scale reads “4”, then enter a value of “40”. Be sure to press the **RETURN** key after setting the height.

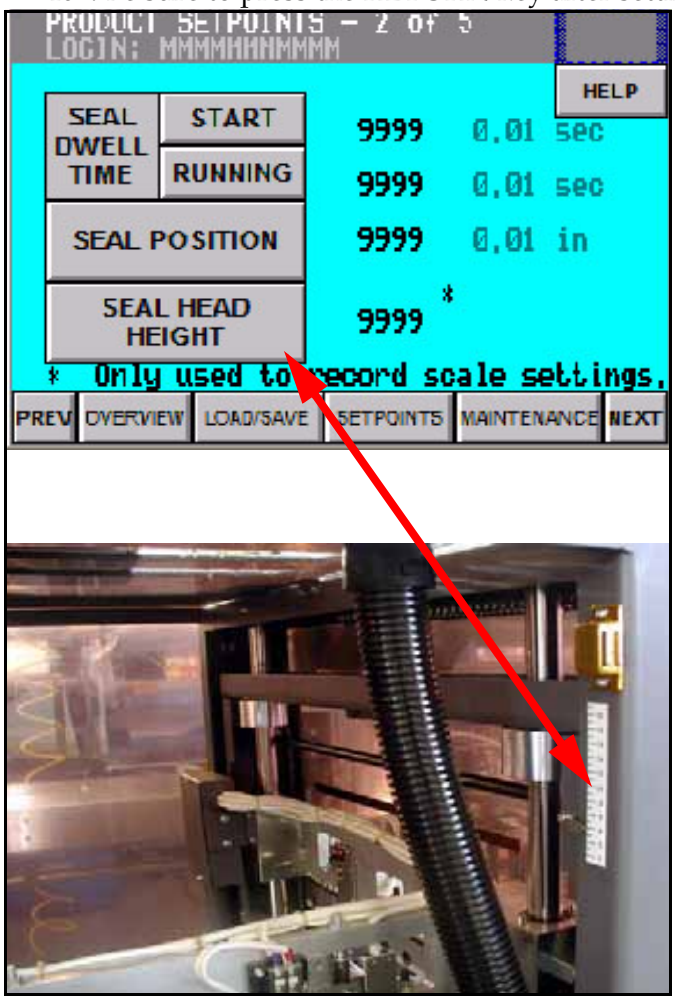

Figure 5-35. Seal Head Height

Press the **NEXT** button. The third page will appear.

The third page has the following features:

1 **FILM FORMER HEIGHT:** Pressing this button will open a numerical menu that allows you to record the film former head height. Read the film former height off of the film former height scale (see figure), multiply this by 10 and enter the number. For example, if the scale reads “4”, then enter a value of “40”. Be sure to press the **RETURN** key after setting the position.

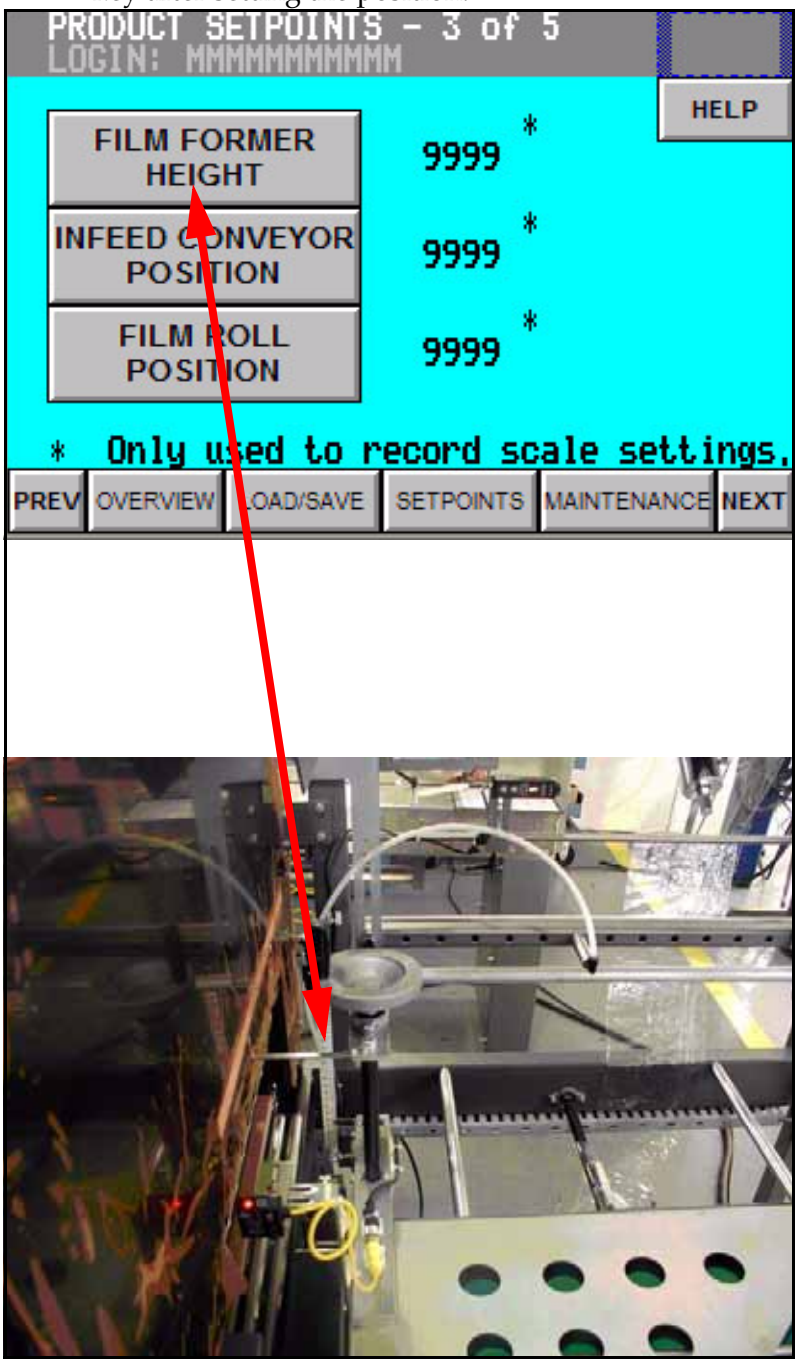

Figure 5-36. Film Former Height

2 **INFEED CONVEYOR POSITION:** Pressing this button will open a numerical menu that allows you to set the infeed conveyor position. Read the infeed conveyor position off of the infeed conveyor position scale (refer to Figure 5-37), multiply this by 10 and enter the number. For example, if the scale reads “4”, then enter a value of “40”. Be sure to press the **RETURN** key after setting the position.

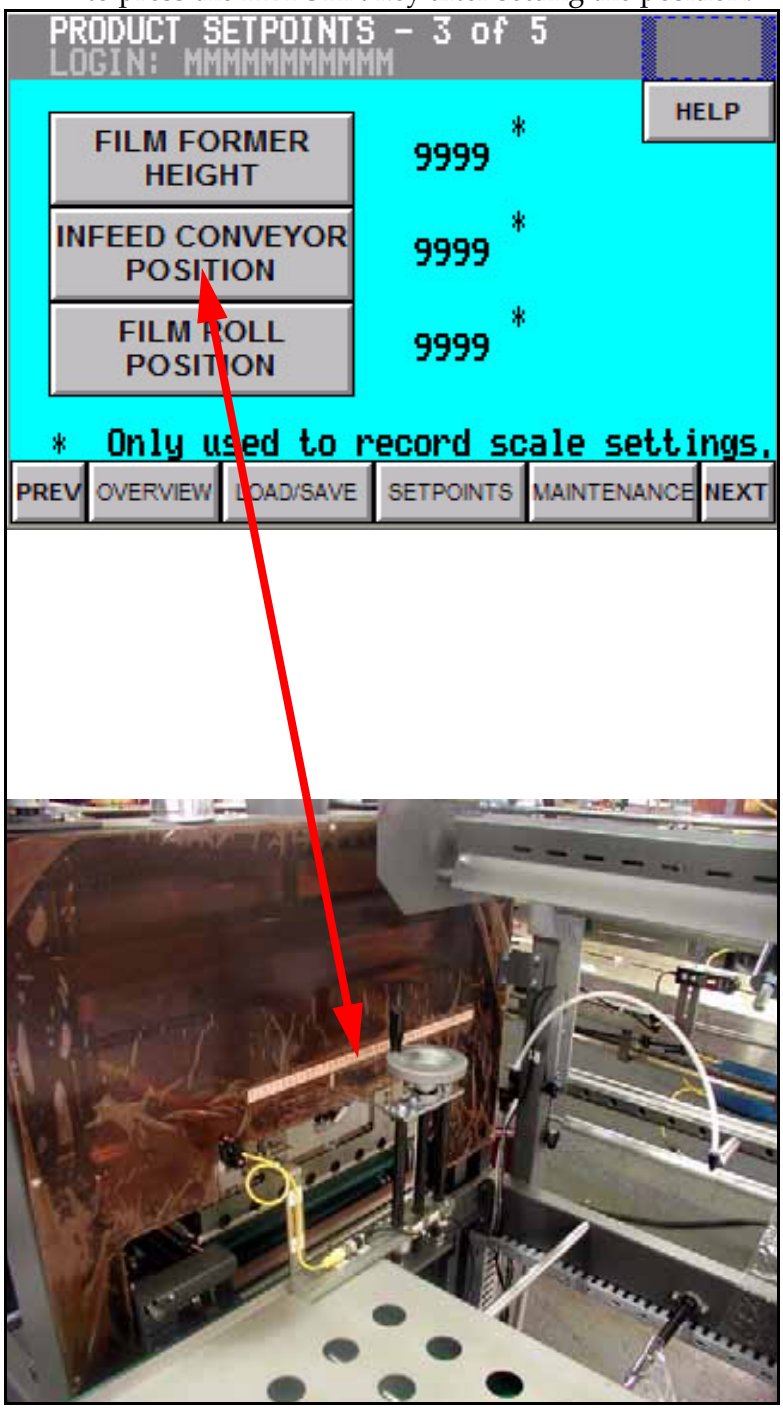

Figure 5-37. Infeed Conveyor Position

3 **FILM ROLL POSITION:** Pressing this button will open a numerical menu that allows you to record the film roll position. Read the film roll position on the film roll position scale (see figure), multiply this by 10 and enter the number. For example, if the scale reads "8", then enter a value of "80". Be sure to press the **RETURN** key after setting the time.

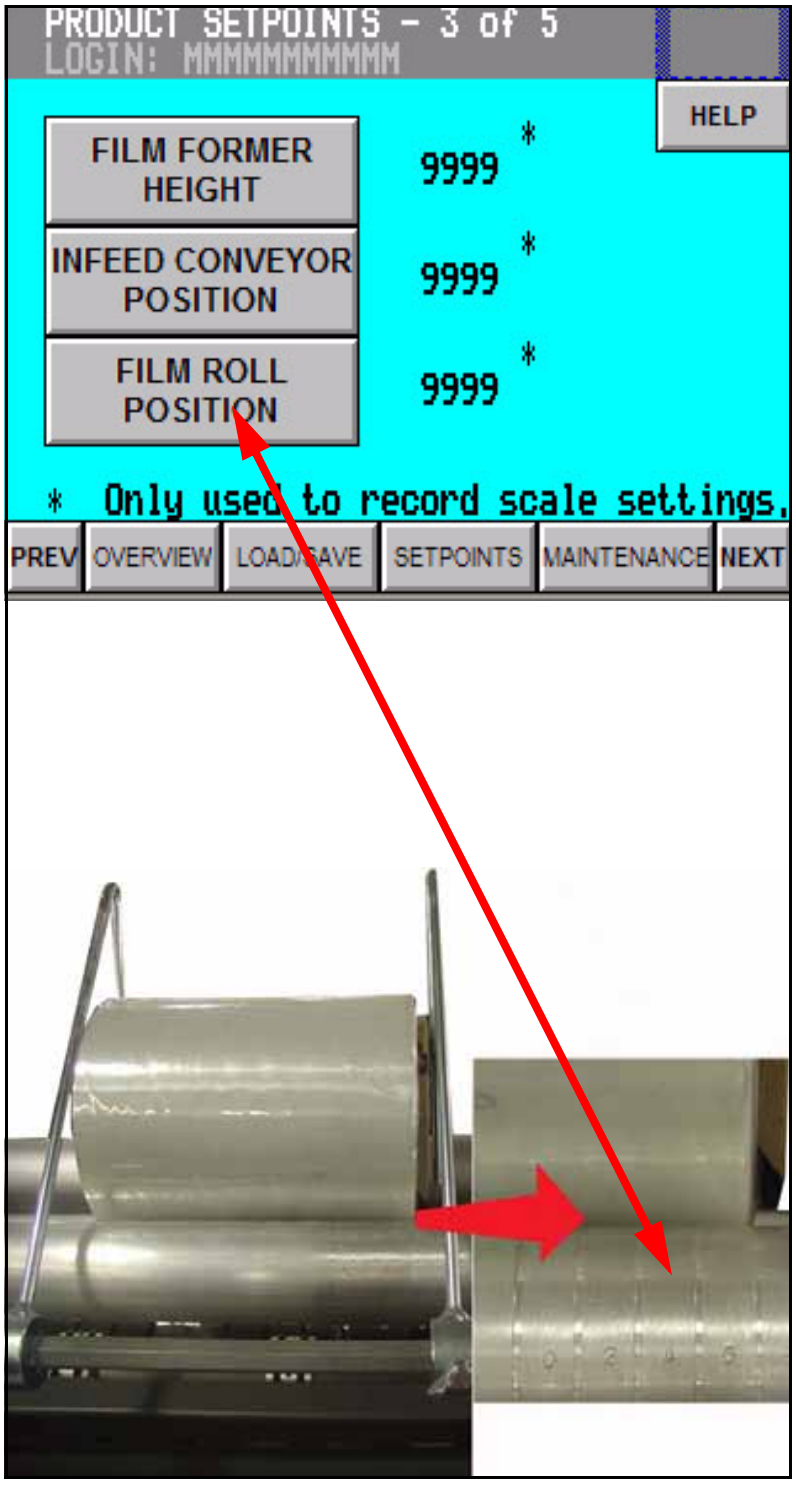

Figure 5-38. Film Roll Position

Press the **NEXT** button. The fourth page will appear.

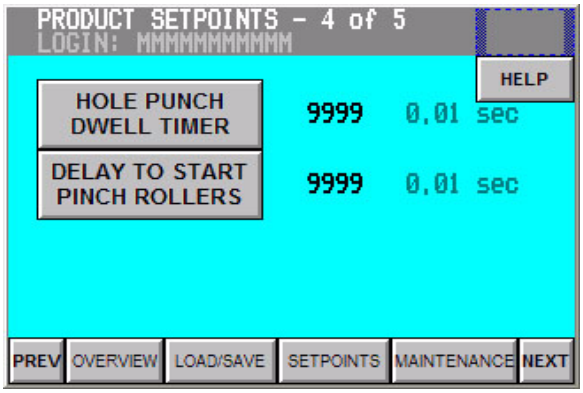

Figure 5-39. PRODUCT SETPOINTS - 4 of 5 Screen

The fourth page has the following features:

1. **HOLE PUNCH DWELL TIMER:** Pressing this button will open a numerical menu that allows you to set the hole punch dwell time. This is the amount of time the punch will stop before retracting after it penetrates the film. This feature increases or decreases the amount of tear the punch created in the film. Be sure to press the **RETURN** key after setting the position.
2. **DELAY TO START PINCH ROLLERS:** Pressing this button will open a numerical menu that allows you to set the delay time to start the pinch roller. Increasing this time will decrease the distance between the seal position and the leading edge of the product. Be sure to press the **RETURN** key after setting the position.

Press the **NEXT** button. The fifth page will appear.

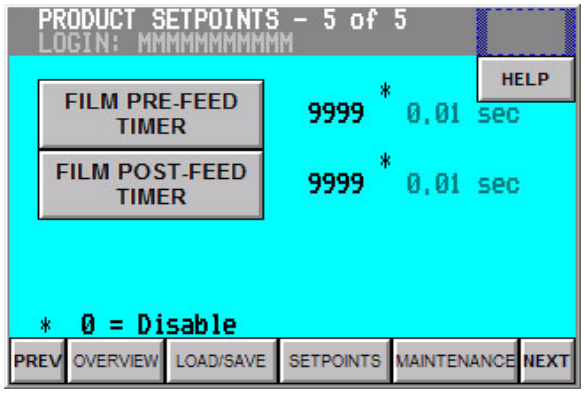

Figure 5-40. PRODUCT SETPOINTS 5 of 5 Screen

The fifth page has the following features:

1. **FILM PRE-FEED TIMER:** Pressing this button will open a numerical menu that allows you to set the pre-feed time of the pinch rollers. Increasing this time will increase the distance between the seal position and the leading edge of the product. Be sure to press the **RETURN** key after setting the position.
2. **FILM POST-FEED TIMER:** Pressing this button will open a numerical menu that allows you to set the post-feed time of the pinch rollers. Increasing this time will increase the distance between the seal position and the trailing edge of the product. Be sure to press the **RETURN** key after setting the position.

5.8.4 MAINTENANCE Menu

Press the **MAINTENANCE** button at the bottom of the menu. This will make the MAINTENANCE menu appear. This multi-page menu is used to set various maintenance settings for the machine.

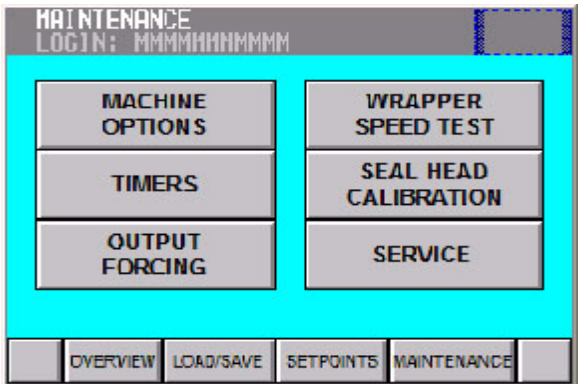

Figure 5-41. MAINTENANCE MENU Screen

Press the **MACHINE OPTIONS** button. The menu below will appear.

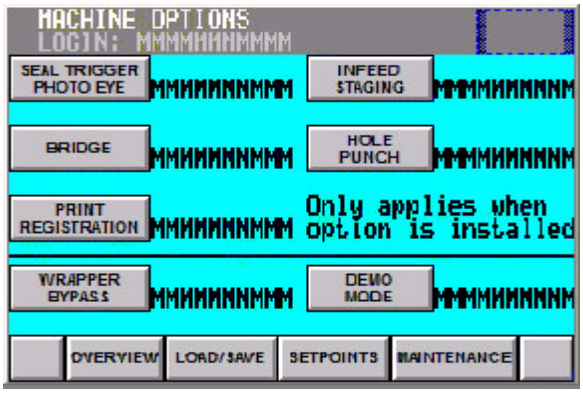

Figure 5-42. MACHINE OPTIONS Menu Screen

The MACHINE OPTIONS menu has the following features:

1. **SEAL TRIGGER PHOTO EYE:** Pressing this button will select whether a horizontal or vertical seal trigger photo eye is being used.
2. **CLOSING BRIDGE FUNCTION:** Pressing this button alternately enables or disables the closing bridge function.
3. **PRINT REGISTRATION:** Pressing this button alternately enables or disables the infeed staging function.
4. **INFEED STAGING:** Pressing this button alternately enables or disables the infeed staging function.
5. **HOLE PUNCH ON/OFF:** Pressing this button alternately turns the hole punch function on or off.
6. **WRAPPER BYPASS MODE:** Pressing this button alternately enables or disables the wrapper bypass mode.
7. **DEMO MODE:** Pressing this button makes the machine cycle in a demonstration mode.

Press the **MAINTENANCE** button at the bottom of the menu again. Then press the **TIMERS** button. The TIMERS menu will appear as shown below. This four-page menu is used by service technicians to set time

values for PLC ports. These values can only be accessed when a laptop PC is logged onto the machine's PLC.

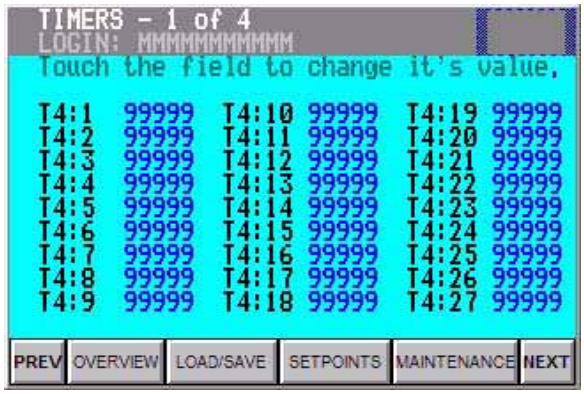

Figure 5-43. TIMERS 1 of 4 Screen

Press the **MAINTENANCE** button at the bottom of the menu again. Then press the **OUTPUT FORCING** button. The OUTPUT FORCING menu will appear as shown below.

This menu is used as a troubleshooting tool. When a button is pressed, a signal will be sent to its respective device to ensure that the circuitry is working properly.

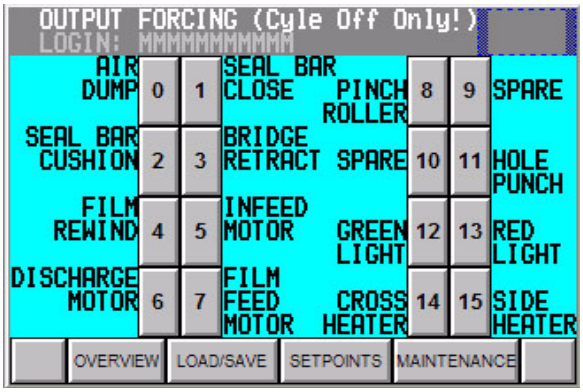

Figure 5-44. OUTPUT FORCING (Cycle Off Only!) Screen

Press the **MAINTENANCE** button at the bottom of the menu again. Then press the **WRAPPER SPEED TEST** button. The WRAPPER SPEED TEST menu will appear as shown below. When you make changes to the machine's settings, this feature will allow you to cycle a product through the machine to see the affect of the changes on product throughput. This will be based on the new product speed compared to the most recent cycle speed.

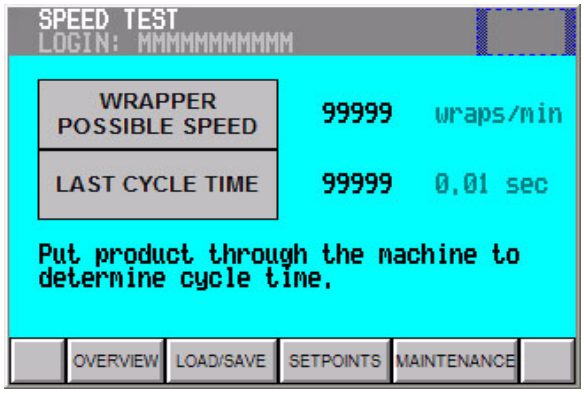

Figure 5-45. SPEED TEST Screen

Press the **MAINTENANCE** button at the bottom of the menu again. Then press the **SEAL HEAD CALIBRATION** button. The SEAL HEAD CALIBRAION menu will appear as shown below. This menu is used by service technicians to calibrate the seal head. The menu provides step-by-step instructions on how to perform the calibration.

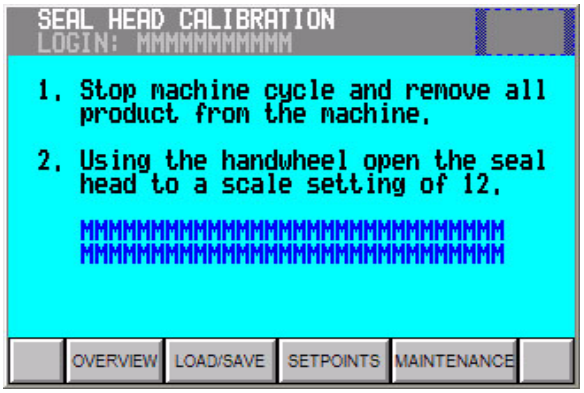

Figure 5-46. SEAL HEAD CALIBRATION Screen

Press the **MAINTENANCE** button at the bottom of the menu again. Then press the **SERVICE** button. The SERVICE menu will appear as shown below.

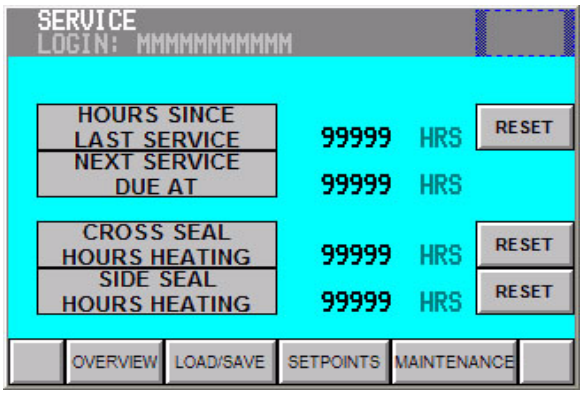

Figure 5-47. SERVICE Menu Screen

This menu is used by service technicians to check machine hourly operational time and allows technicians to reset the time after service has been performed.

5.8.5 Help Screens

Throughout the Operator Interface there are many help buttons like the one shown below.

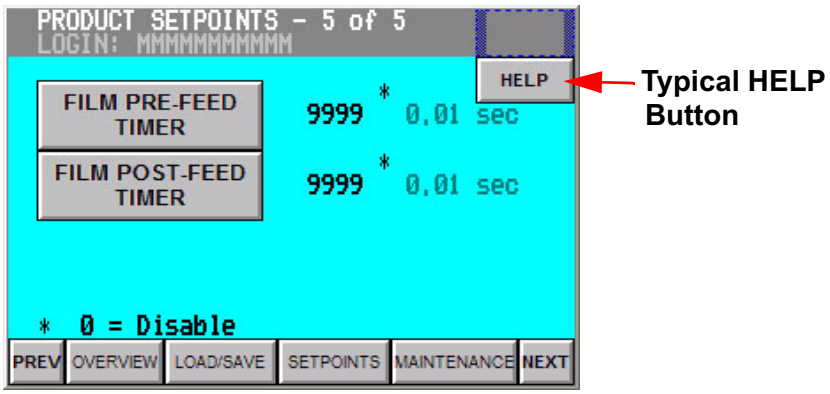

Figure 5-48. Screen with Typical HELP Button

These help buttons lead to a variety of HELP screens that aide the operator in understanding machine operations. The following pages show all of the screen menus in the interface.

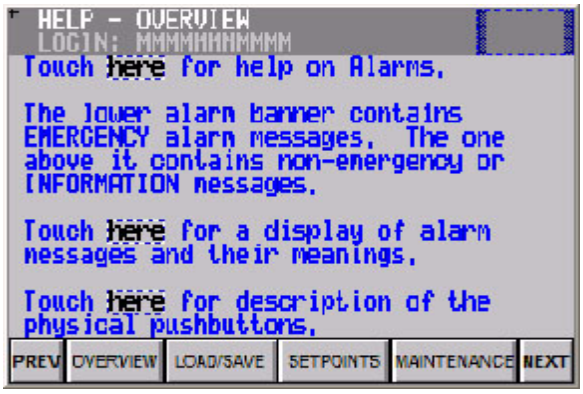

Figure 5-49. HELP - OVERVIEW Screen

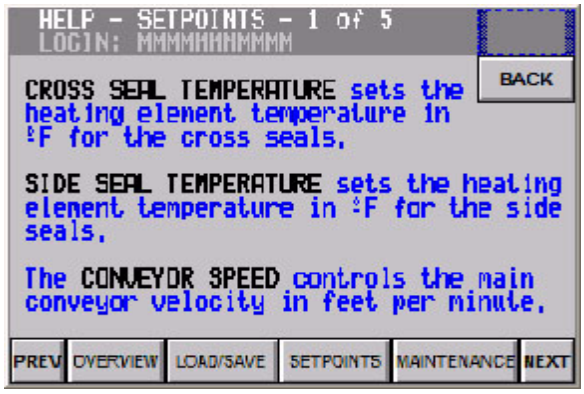

Figure 5-50. HELP - SETPOINTS - 1 of 5 Screen

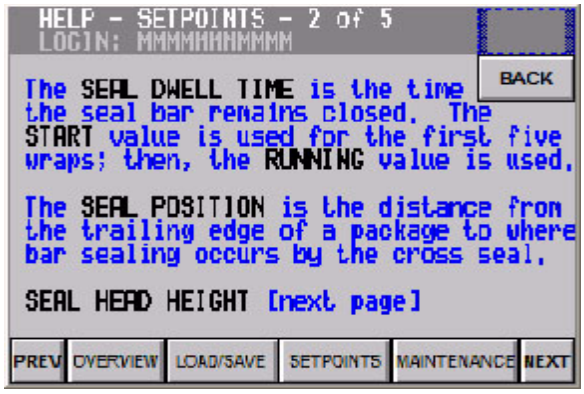

Figure 5-51. HELP - SETPOINTS - 2 of 5 Screen

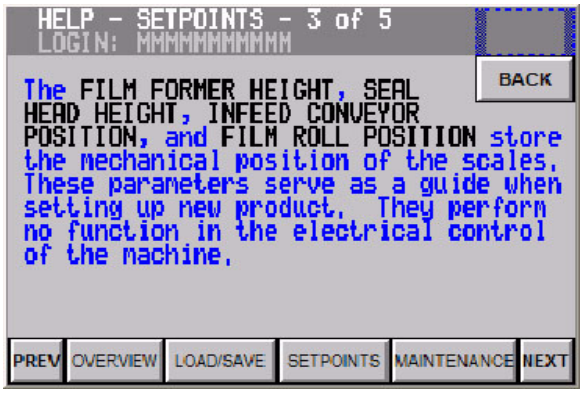

Figure 5-52. HELP - SETPOINTS - 3 of 5 Screen

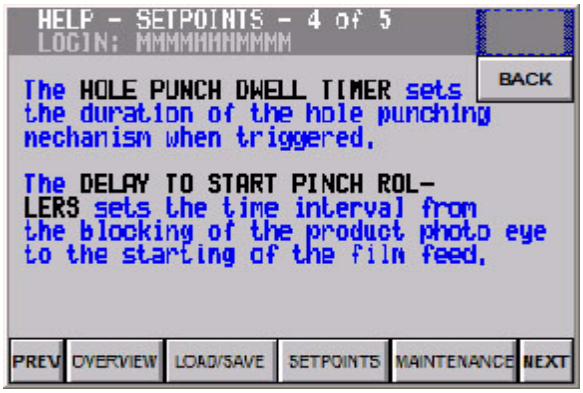

Figure 5-53. HELP - SETPOINTS - 4 of 5 Screen

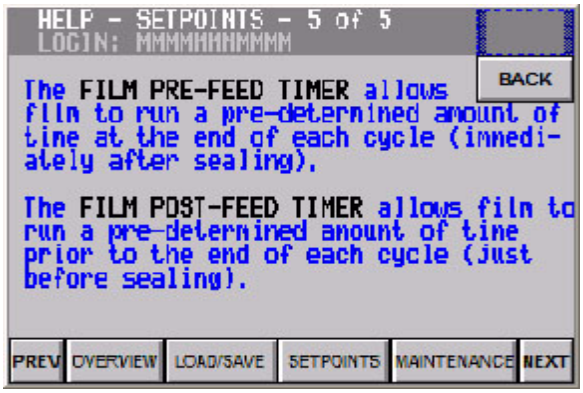

Figure 5-54. HELP - SETPOINTS - 5 or 5 Screen

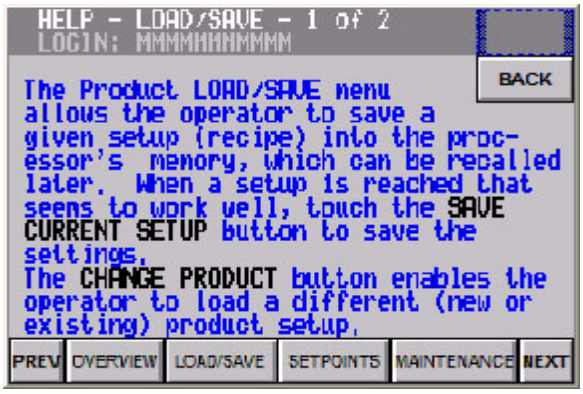

Figure 5-55. HELP - LOAD/SAVE 1 of 2 Screen

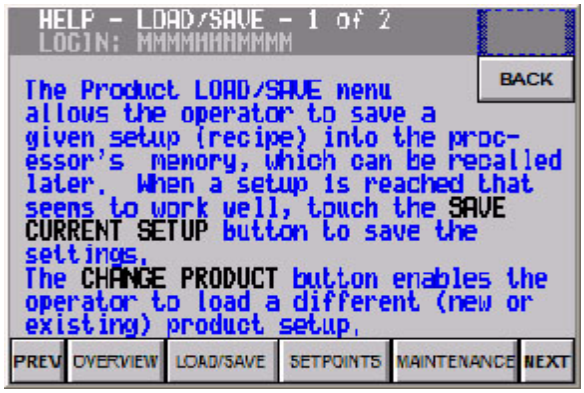

Figure 5-56. HELP - LOAD/SAVE 2 of 2 Screen

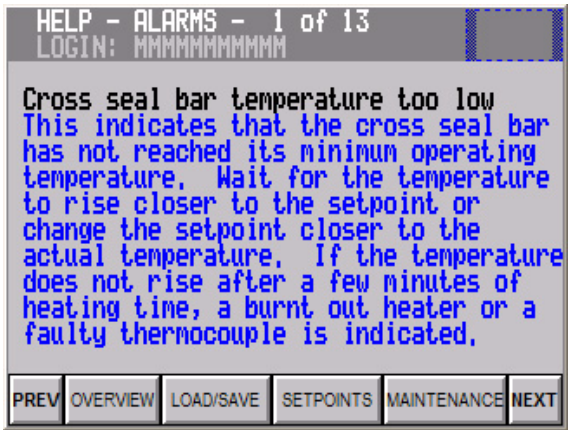

Figure 5-57. HELP - ALARMS - 1 of 13 Screen

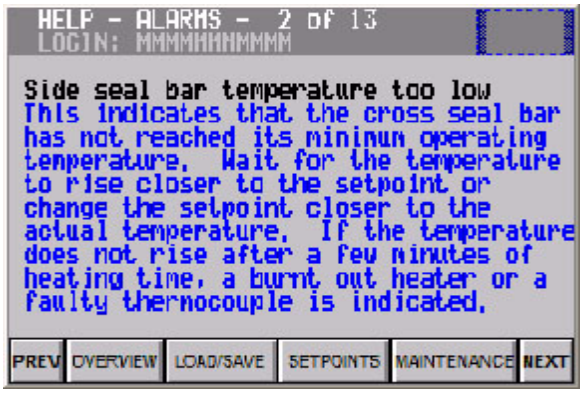

Figure 5-58. HELP - ALARMS - 2 of 13 Screen

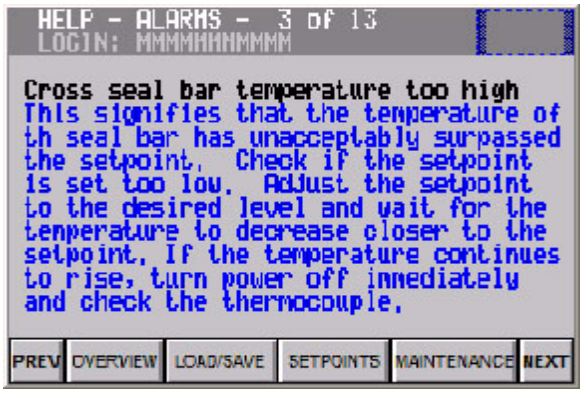

Figure 5-59. HELP - ALARMS 3 of 13 Screen

Figure 5-60. HELP - ALARMS 4 of 13 Screen

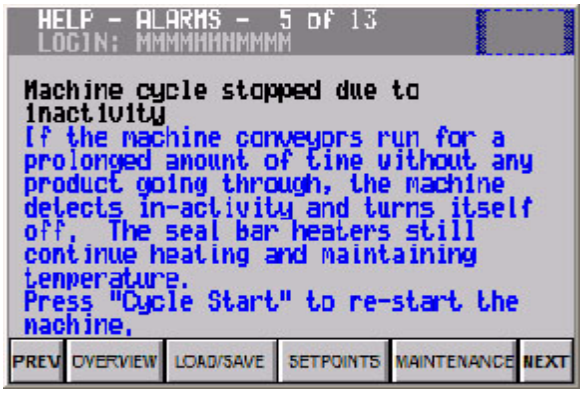

Figure 5-61. HELP - ALARMS 5 of 13 Screen

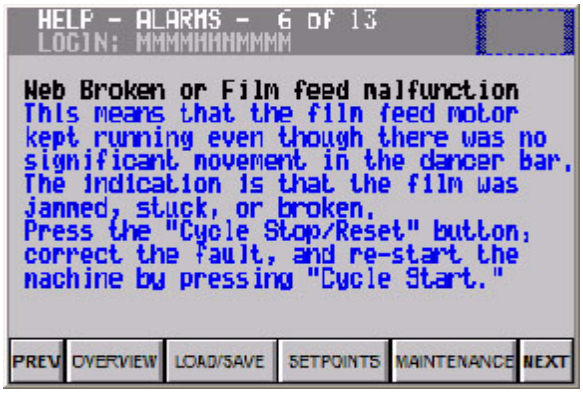

Figure 5-62. HELP - ALARMS 6 of 13 Screen

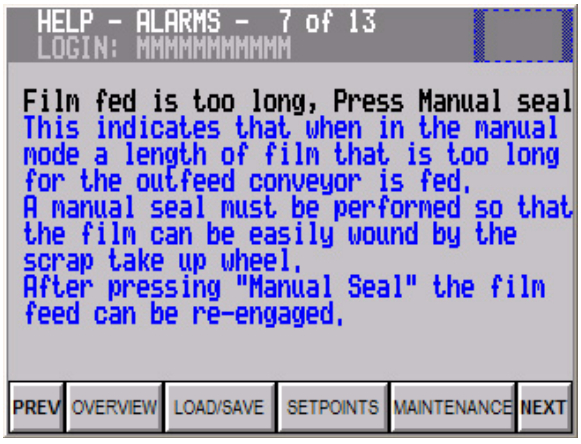

Figure 5-63. HELP - ALARMS 7 of 13 Screen

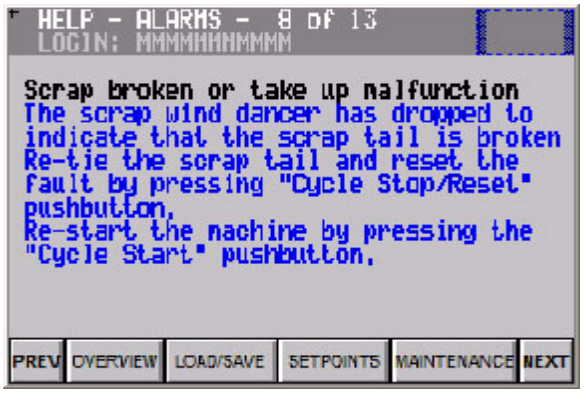

Figure 5-64. HELP - ALARMS - 8 of 13 Screen

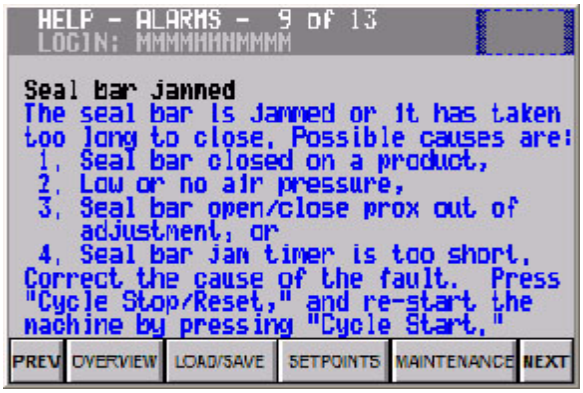

Figure 5-65. HELP - ALARMS - 9 of 13 Screen

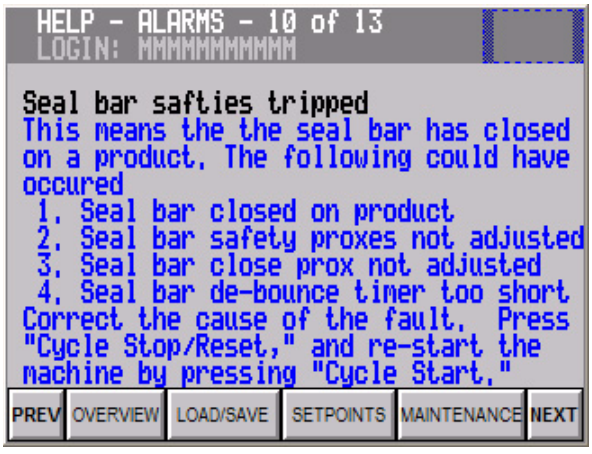

Figure 5-66. HELP - ALARMS - 10 of 13 Screen

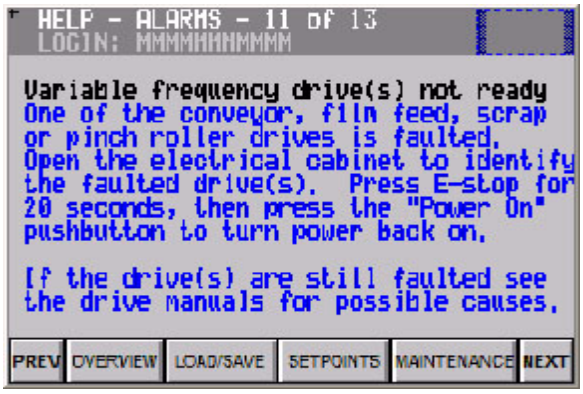

Figure 5-67. HELP ALARMS - 11 of 13 Screen

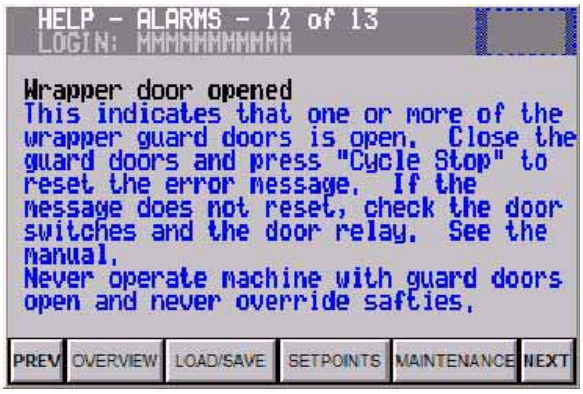

Figure 5-68. HELP ALARMS 12 of 13 Screen

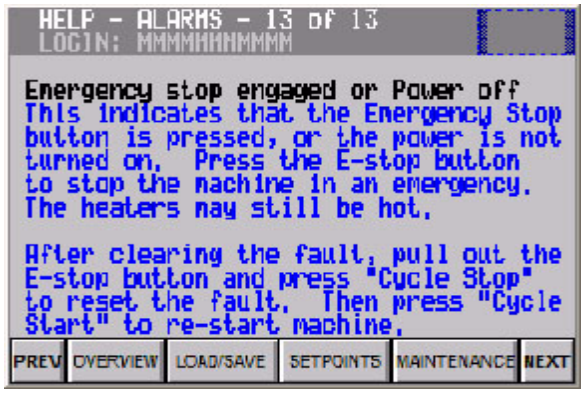

Figure 5-69. HELP ALARMS 13 of 13 Screen

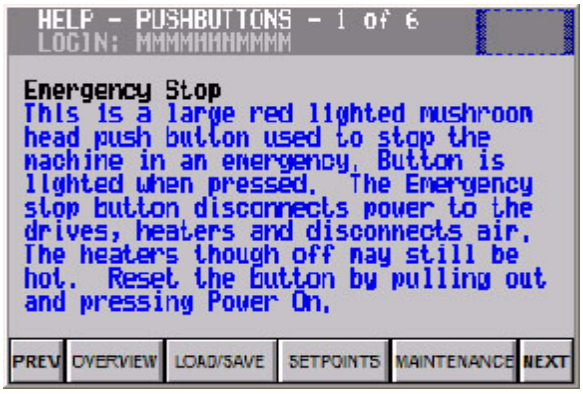

Figure 5-70. HELP - PUSHBUTTONS - 1 of 6 Screen

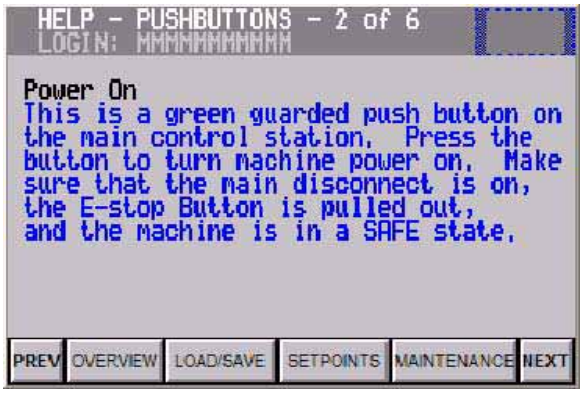

Figure 5-71. HELP PUSHBUTTONS - 2 of 6 Screen

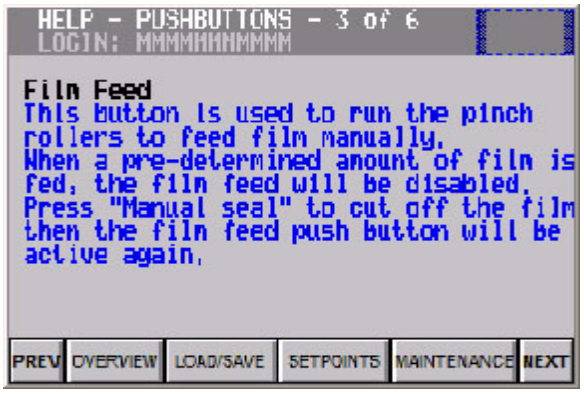

Figure 5-72. HELP PUSHBUTTONS - 3 of 6 Screen

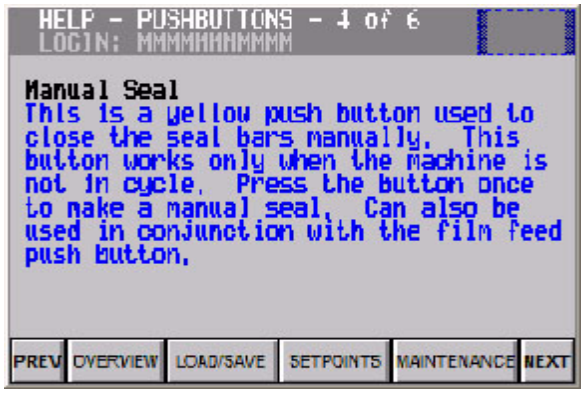

Figure 5-73. HELP PUSHBUTTONS - 4 of 6 Screen

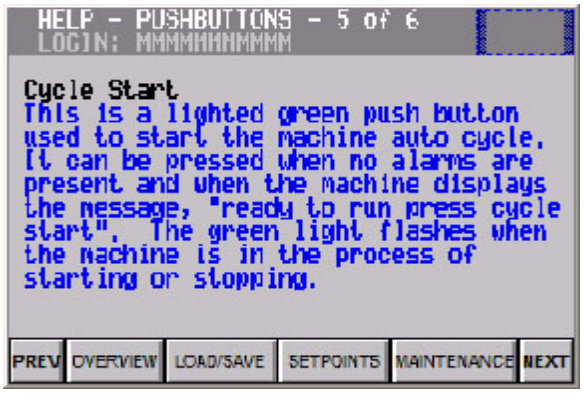

Figure 5-74. HELP PUSHBUTTONS - 5 of 6 Screen

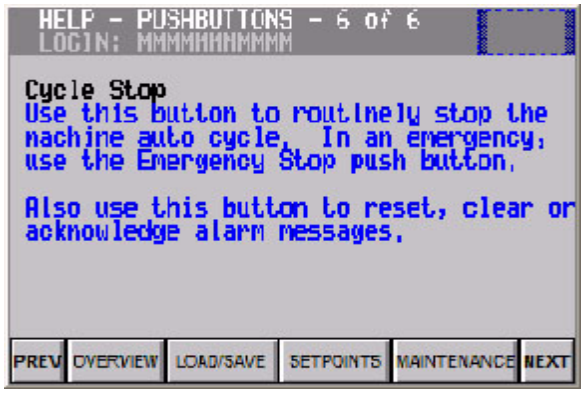

Figure 5-75. HELP PUSHBUTTONS - 6 of 6 Screen

Periodic Maintenance

6

6.1 Maintenance

The most important factor for this or any other machinery is to keep the system clean. It is also essential to make periodic inspections to detect small problems before they become big problems. A clean, properly maintained machine enhances productivity. A little P.M. now goes a long way in improving future system operation and machine reliability.

Warning

The following procedures should only be done after the machine has been turned off, allowed to cool down and the air pressure has been released. Always follow Lockout/Tagout procedures. Always wear safety glasses and all required personal protective equipment.

6.1.1 Preventive Maintenance Schedule

The PLC program is designed to prompt the operator to perform preventive maintenance (PM) after every 50 hours of operation. A yellow warning will appear when the machine has been operated for 50 hours. The prompt will stay on the screen and the machine continue to operate. This message will stay on the screen until the PM is completed and the PM hour meter is reset.

NOTE: To reset the message after performing the maintenance. Log on as a maintenance technician, go to the maintenance menu, press the service button and reset the timer.

Refer to the schedule below for information on when to perform periodic maintenance on the machine.

NOTE: Due to varying operating conditions, the procedures listed below may have to be performed at greater or lesser intervals. You may have to adjust intervals according to your machine's performance.

	When To Do It					
What To Do	**Daily**	**Every 50 Hours**	**Every Month**	**Every 6 Months**	**Every 12 Months**	**Refer to Section**
Perform Walk Around Safety Inspection	X					6.2
Clean External Surfaces	X					6.3
Check Emergency Button For Proper Operation	X					6.4
Drain Water from Air Filter	X					6.5
Lubricate Seal Blades	X					6.6
Clean Photo Sensors		X				6.7
Lubricate Seal Bar Shafts		X				6.8
Check Condition of Scrap Takeaway, Infeed and Exit Conveyor Belts		X				6.9
Clean Film Drive and Pinch Rollers		X				6.10
Check Condition of the Seal Pad and Teflon Tape.		X				6.11
Clean Film Forming Plow		X				6.12
Lubricate Seal Bar Drive Chains			X			6.13
Lubricate Scrap Chains			X			6.14
Lubricate Infeed Conveyor Drive Chain			X			6.15
Lubricate Exit Conveyor Drive Chain			X			6.16
Lubricate Film Feed Drive Chain			X			6.17
Grease Zerk Fittings on In-Feed Lug Conveyor (Optional)			X			6.18
Check Fasteners for Tightness				X		6.19
Change Air Filter					X	6.20

Table 6-1: Periodic Maintenance Schedule

6.2 Walk Around Safety Inspection

Tools Required:

- None

At the beginning of each day, do a daily safety inspection of the machine and its surrounding area. Pick up any trash or obstacles around the machine. Wipe up any grease or spills.

6.3 Cleaning External Surfaces

Daily cleaning of some parts of the machine and weekly cleaning of the rest should prevent the accumulation of dirt, dust, lubricants, spilled product and other foreign material that can interfere with the machine operation. Spots of glue, scraps of paper residue, and spilled product can cause the machine to grab or hesitate.

Tools Required:

- Cleaning Wipes
- Window Cleaning Solution

Before Cleaning the Machine

- STOP MACHINE and ensure that ALL SAFETY DEVICES are activated.
- Remove or store any unused product, material, or containers that may be damaged by water or other cleaning materials.
- Disconnect and lockout electrical power to machine.

Warning

Turn off, lock out and tag machine's electrical and air sources according to your company's procedures before servicing the machine. You can be severely injured if you do not.

Cleaning

1. Wipe the machine with a clean, dry cloth.
2. Blow off loose dust or particles with LOW pressure air.
3. Wash machine parts with window cleaning solution.

6.4 Check Emergency Stop Button

With the machine cycling, press the **EMERGENCY STOP** button. The machine should stop immediately. Pull button back up to reset.

Figure 6-1. EMERGENCY STOP Button

6.5 Draining Air Filter

Tools Required:

- Cleaning Wipes

Warning

In high humidity environments, the air filter may need to be drained several times a day. Failure to drain water from the filter may cause corrosion and eventual failure of pneumatic components.

When the water filter bowl becomes dirty, wipe with a clean, dry cloth or replace bowl. Do NOT use certain compressor oils, household cleansers, solvents, paints and fumes. They will attack the plastic bowl and cause bowl failure.

Periodically drain water from the air filter as follows:

1. Make sure that air is connected to machine and machine is turned on but not running.
2. Press red button (1 in Figure 6-2) and let water drain out.
3. Wipe up expelled water.

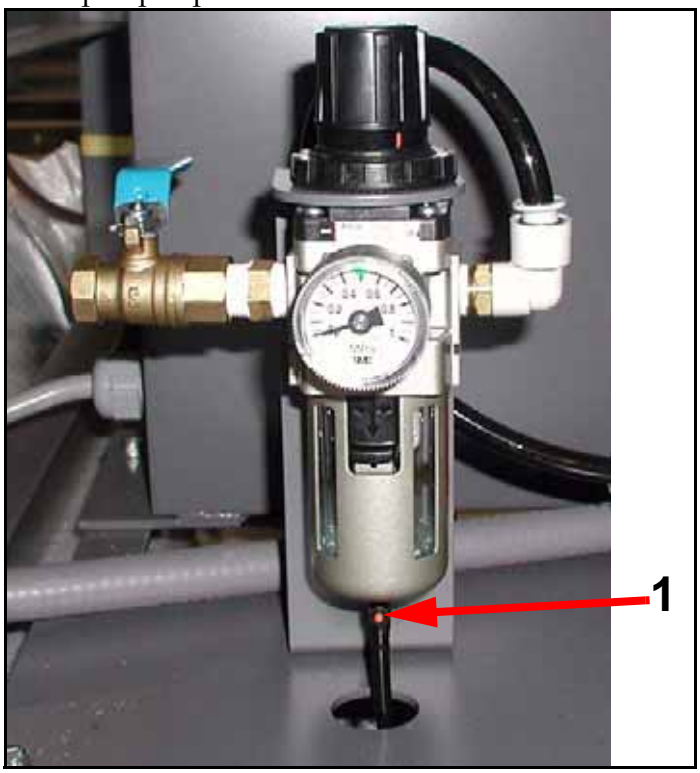

Figure 6-2. Air Filter Drain Button

6.6 Lubricating Seal Blades

Tools Required:

- Cotton Swabs
- Silicon Grease

Warning

Turn off, lock out and tag machine's electrical and air sources according to your company's procedures before servicing machine. You can be severely injured if you do not.

1 Apply a thin film grease to each seal blade (1 in Figure 6-3) with a cotton swab.

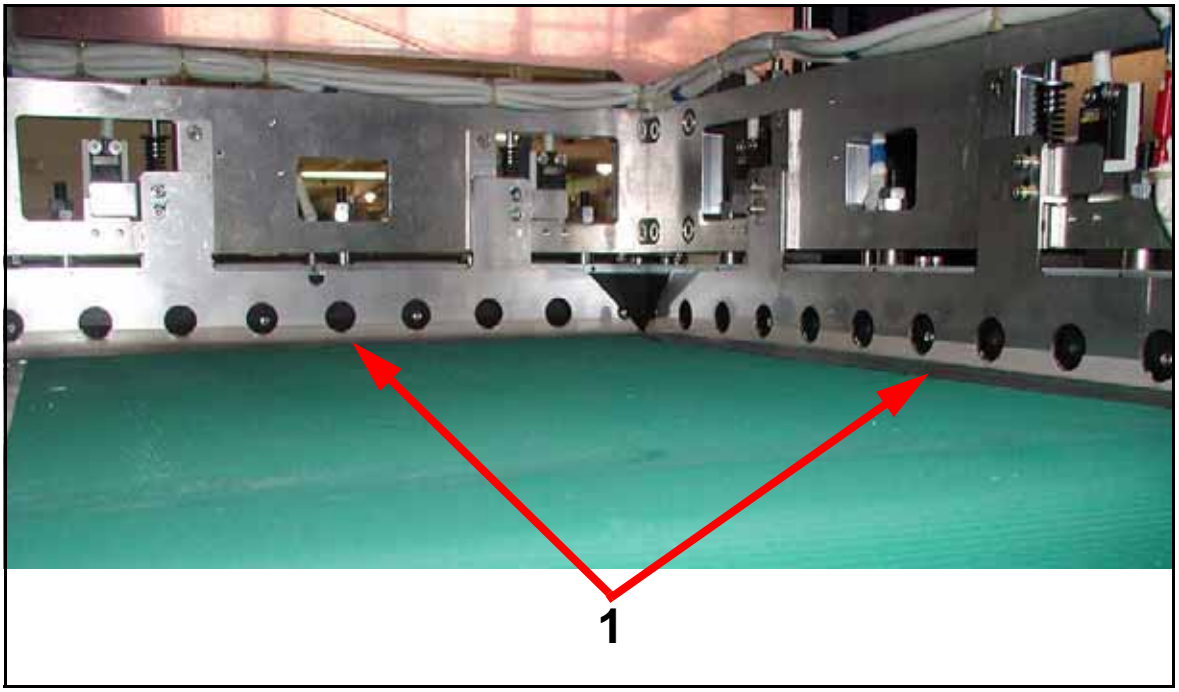

Figure 6-3. Seal Blades

6.7 Cleaning Photo-Sensors

Tools Required:

- Cleaning Wipes
- Window Cleaning Solution

Warning

Turn off, lock out and tag machine's electrical and air sources according to your company's procedures before servicing machine. You can be severely injured if you do not.

1. Spray a small amount of window cleaning solution to face of photo-sensors (1 in Figure 6-4).
2. Dry photoeye with cleaning wipe.

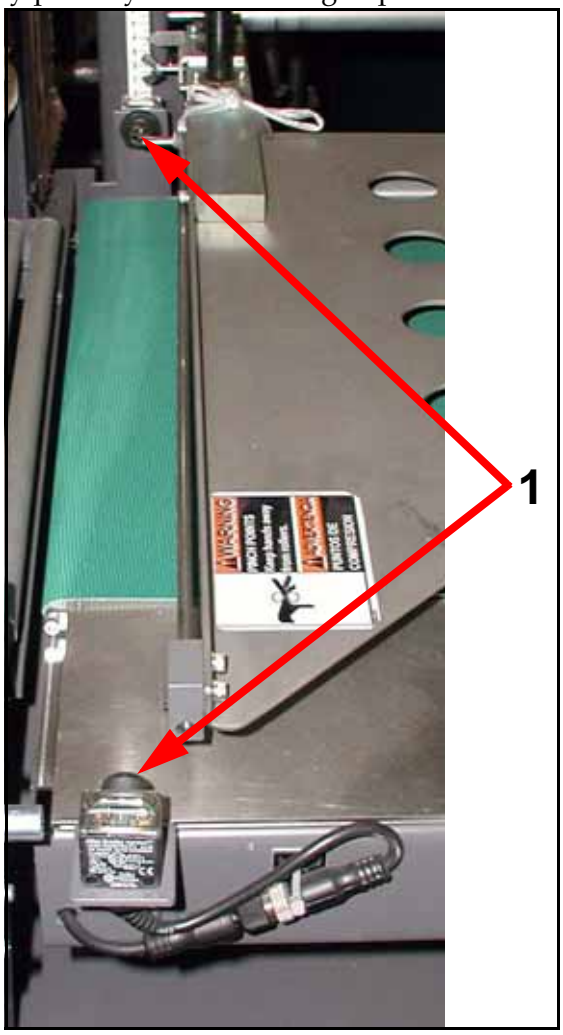

Figure 6-4. Cleaning Photo-Sensor

6.8 Lubricate Seal Bar Shafts

Tools Required:

- Cleaning Wipes
- SAE 10 Air Tool Oil

Warning

Turn off, lock out and tag machine's electrical and air sources according to your company's procedures before servicing machine. You can be severely injured if you do not.

1 Manually apply a thin but thorough coat of oil to each seal bar shaft.

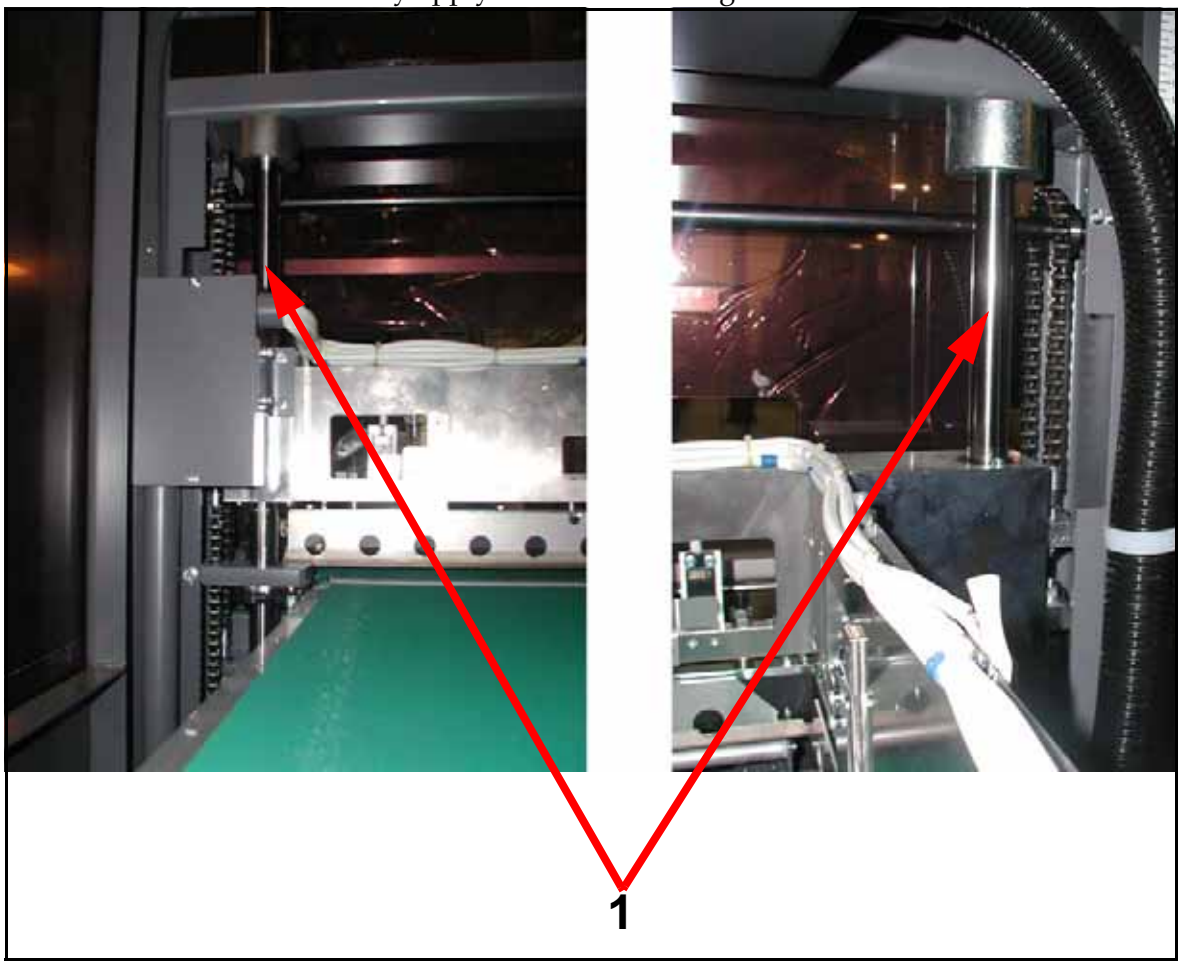

Figure 6-5. Seal Bar Shafts

6.9 Checking Condition of Scrap Takeaway, Infeed and Exit Conveyor Belts

Tools Required:

- None

Warning

Turn off, lock out and tag machine's electrical and air sources according to your company's procedures before servicing machine. You can be severely injured if you do not.

1 Carefully inspect the condition of the scrap takeaway, infeed and exit conveyor belts. Repair or replace as necessary.

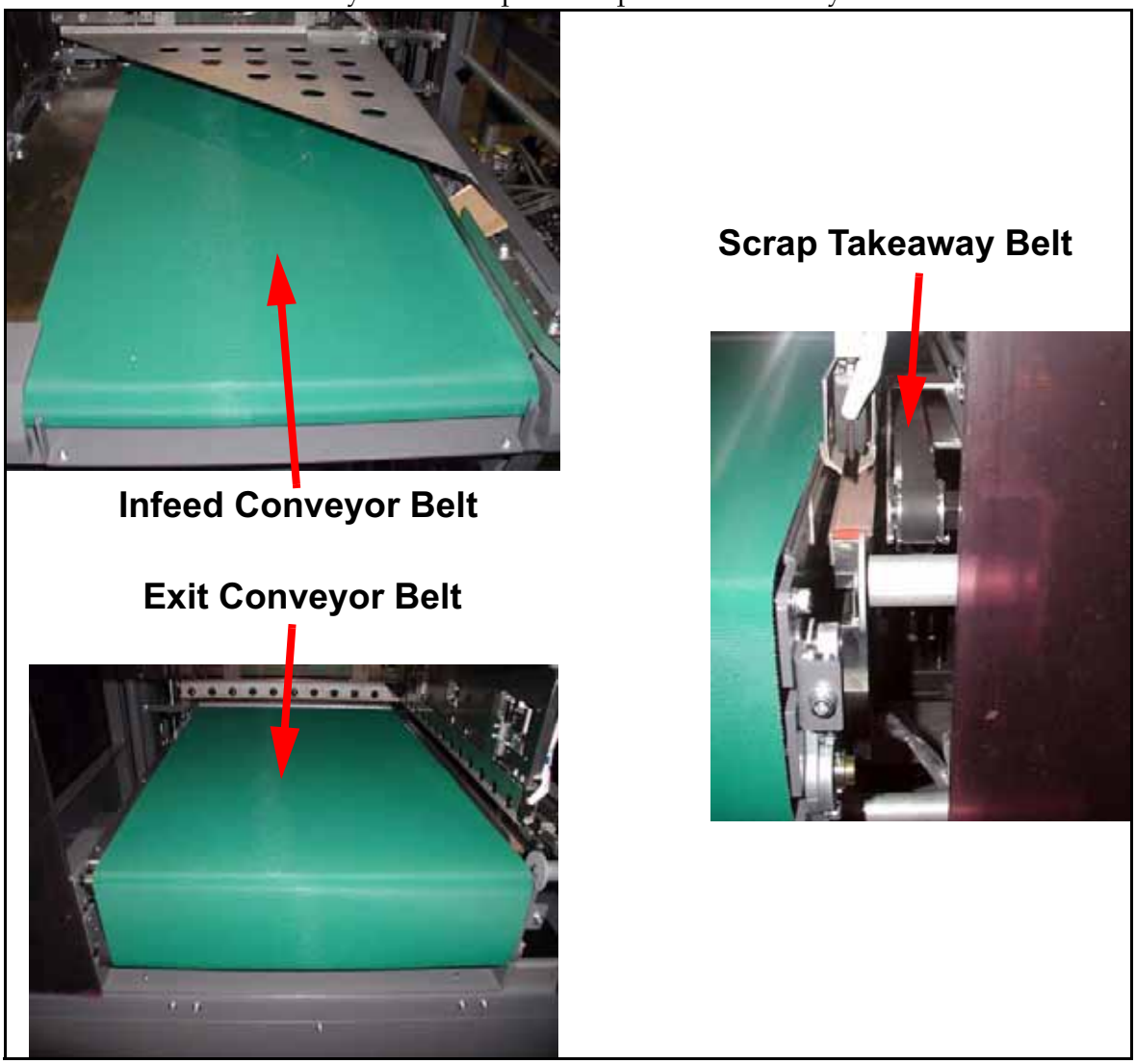

Figure 6-6. Belt Inspection

6.10 Cleaning Film Drive and Pinch Rollers

Tools Required:

- Cleaning Wipes
- Window Cleaning Solution

Warning

Turn off, lock out and tag machine's electrical and air sources according to your company's procedures before servicing machine. You can be severely injured if you do not.

1 Clean film drive and pinch rollers (1 in Figure 6-7) with wipes and cleaning solution.

Figure 6-7. Film Drive and Pinch Rollers

6.11 Checking Condition or Seal Pads and Teflon Tape

Tools Required:

- None

Warning

Turn off, lock out and tag machine's electrical and air sources according to your company's procedures before servicing machine. You can be severely injured if you do not.

1 Carefully inspect the condition of the seal pads and Teflon tape (1 in Figure 6-8) of the seal bars. Repair or replace as necessary.

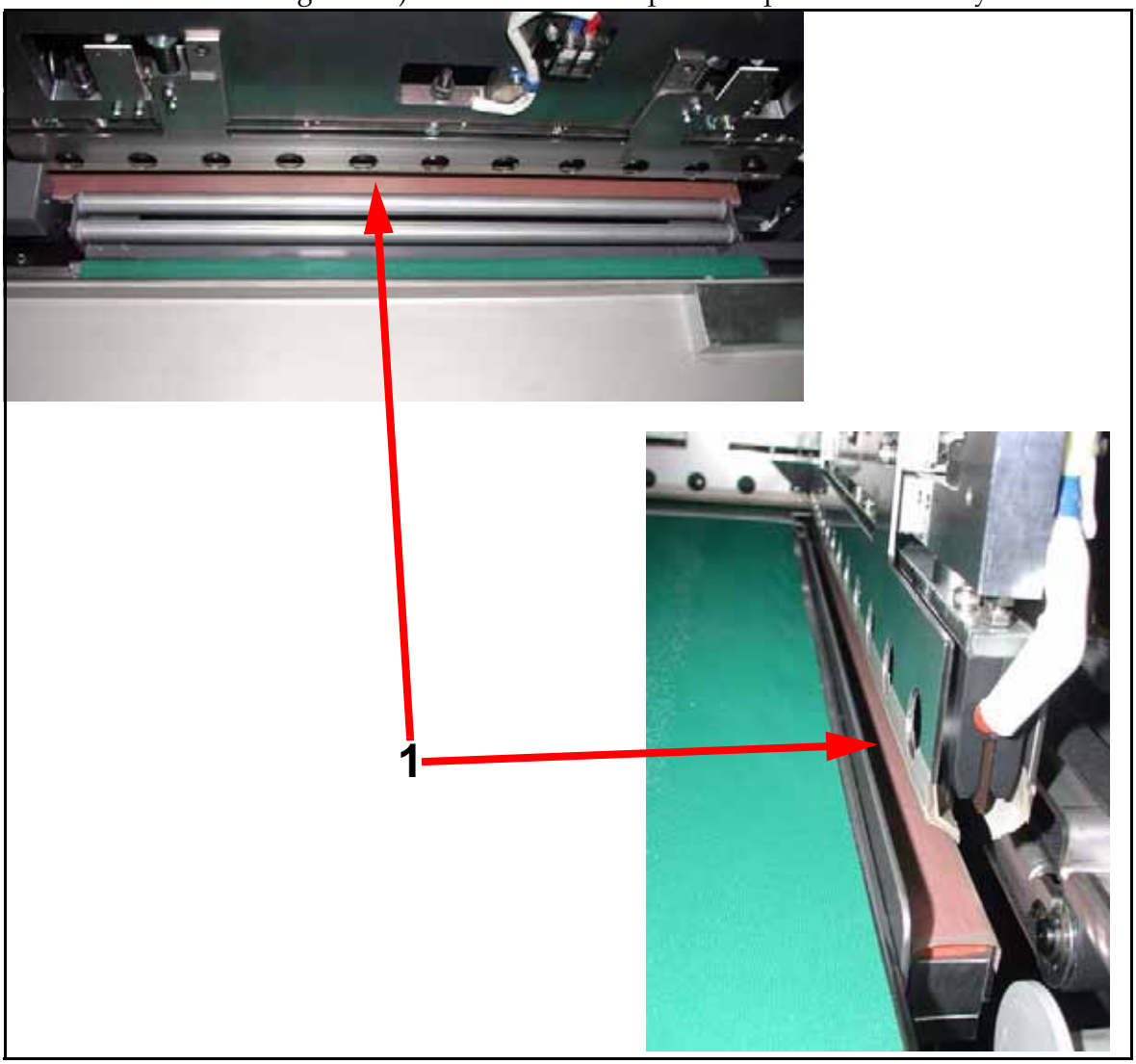

Figure 6-8. Seal Pad and Tape Inspection

6.12 Cleaning Film Forming Plow

Tools Required:

- Cleaning Wipes
- Window Cleaning Solution

Warning

Turn off, lock out and tag machine's electrical and air sources according to your company's procedures before servicing machine. You can be severely injured if you do not.

1 Clean film forming plow (1 in Figure 6-9) with wipes and cleaning solution.

Figure 6-9. Cleaning Film Forming Plow

6.13 Lubricate Seal Bar Chains

Tools Required:

- Cleaning Wipes
- SAE 30 Motor Oil
- Small Paint Brush

Warning

Turn off, lock out and tag machine's electrical and air sources according to your company's procedures before servicing machine. You can be severely injured if you do not.

1. Use a small paint brush to apply a thin but thorough coat of oil to each chain (1 in Figure 6-10).
2. Wipe up spilled or excess oil.

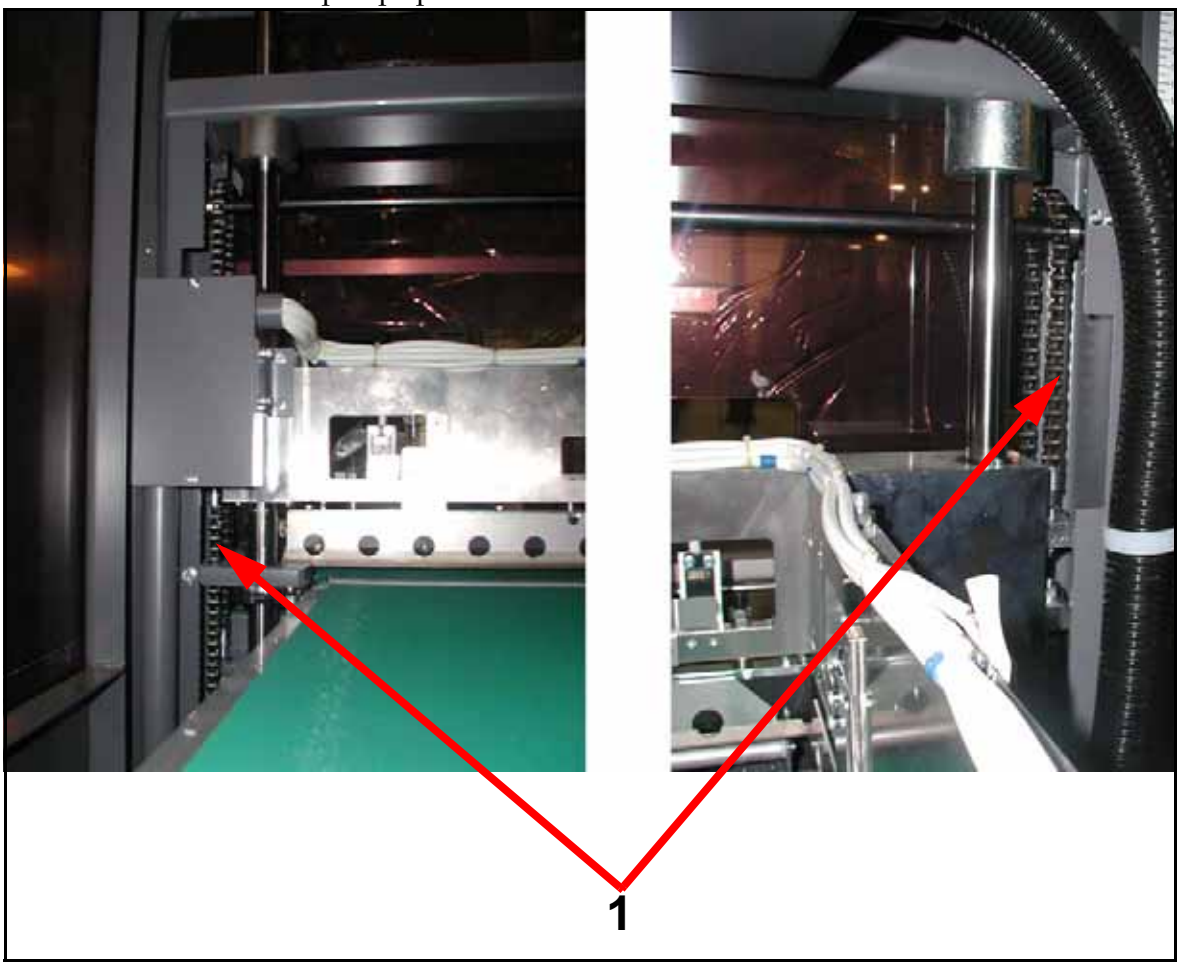

Figure 6-10. Seal Bar Drive Chains

6.14 Lubricate Scrap Chains

Tools Required:

- Cleaning Wipes
- SAE 30 Motor Oil
- Small Paint Brush

Warning

Turn off, lock out and tag machine's electrical and air sources according to your company's procedures before servicing machine. You can be severely injured if you do not.

1. Use a small paint brush to apply a thin but thorough coat of oil to each chain (1 in Figure 6-11).
2. Wipe up spilled or excess oil.

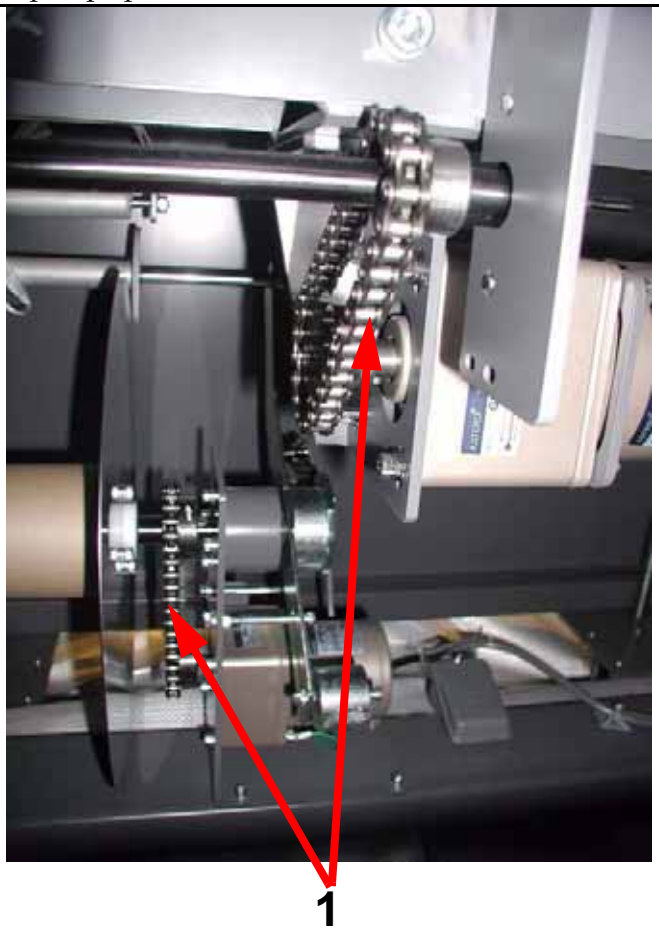

Figure 6-11. Scrap Chains

6.15 Lubricate Infeed Conveyor Drive Chain

Tools Required:

- 3mm Hex Wrench
- Cleaning Wipes
- SAE 30 Motor Oil
- Small Paint Brush

Warning

Turn off, lock out and tag machine's electrical and air sources according to your company's procedures before servicing machine. You can be severely injured if you do not.

1 Unscrew cover screws (1 in Figure 6-12) and remove cover (2).

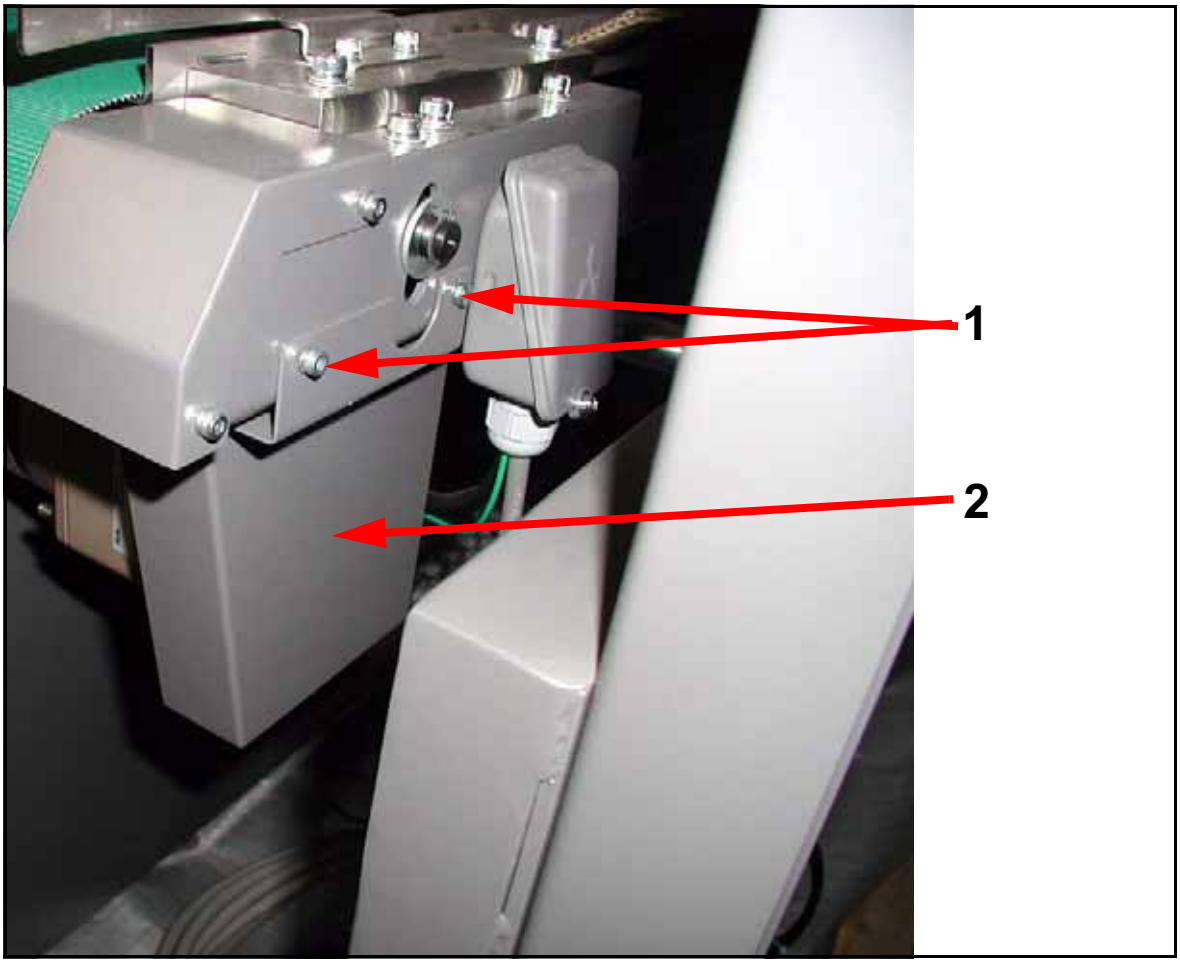

Figure 6-12. Infeed Conveyor Drive Chain Cover

2 Use a small paint brush to apply a thin but thorough coat of oil to chain (1 in Figure 6-13).

3 Wipe up spilled or excess oil.

4 Replace cover.

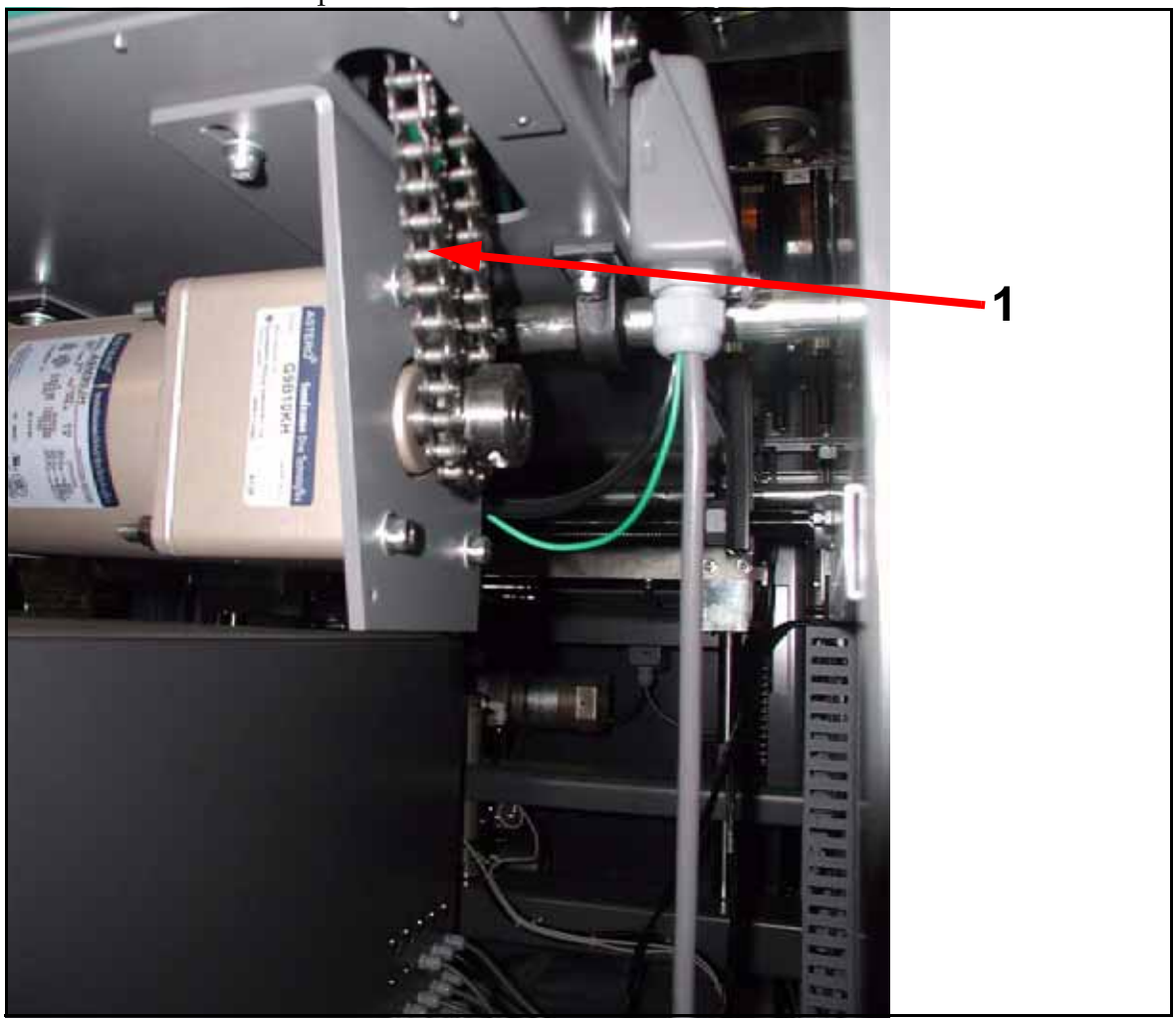

Figure 6-13. Infeed Conveyor Drive Chain

6.16 Lubricate Exit Conveyor Drive Chain

Tools Required:

- Cleaning Wipes
- Medium Phillips Tip Screwdriver
- SAE 30 Motor Oil
- Small Paint Brush

Warning

Turn off, lock out and tag machine's electrical and air sources according to your company's procedures before servicing machine. You can be severely injured if you do not.

1 Unscrew rear guard screws (1 in Figure 6-14) and remove rear guard (2).

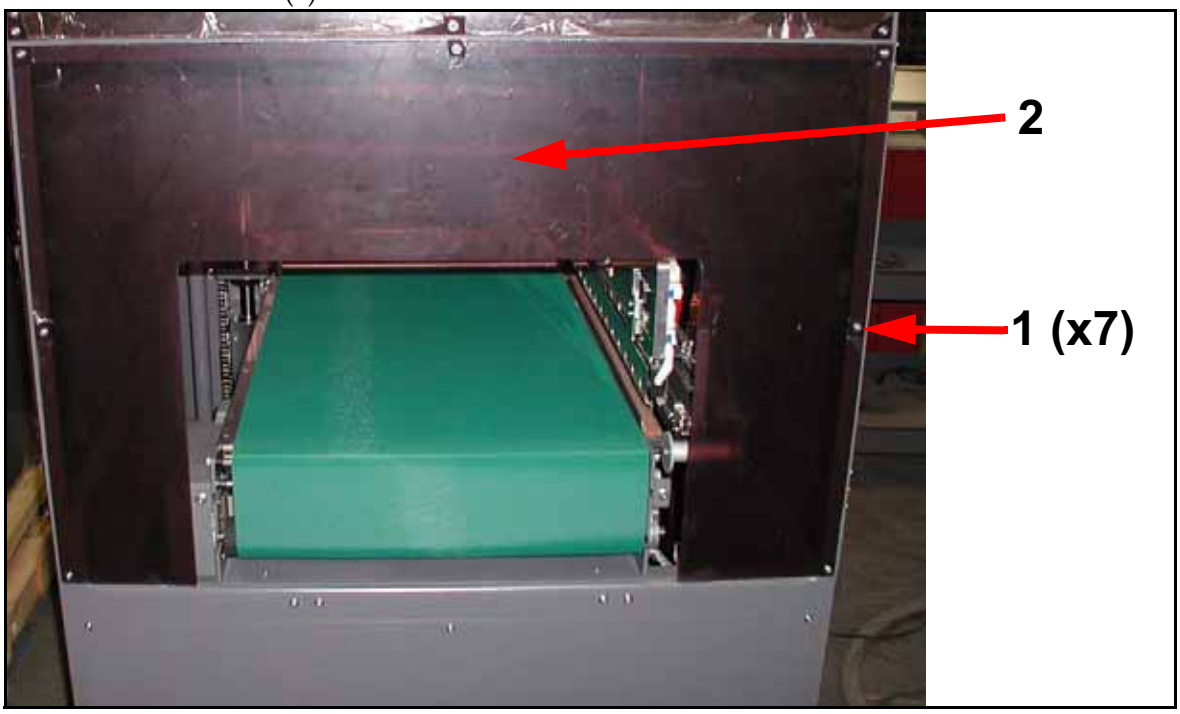

Figure 6-14. Rear Guard

2 Unscrew cover screws (1 in Figure 6-15) and remove cover (2).

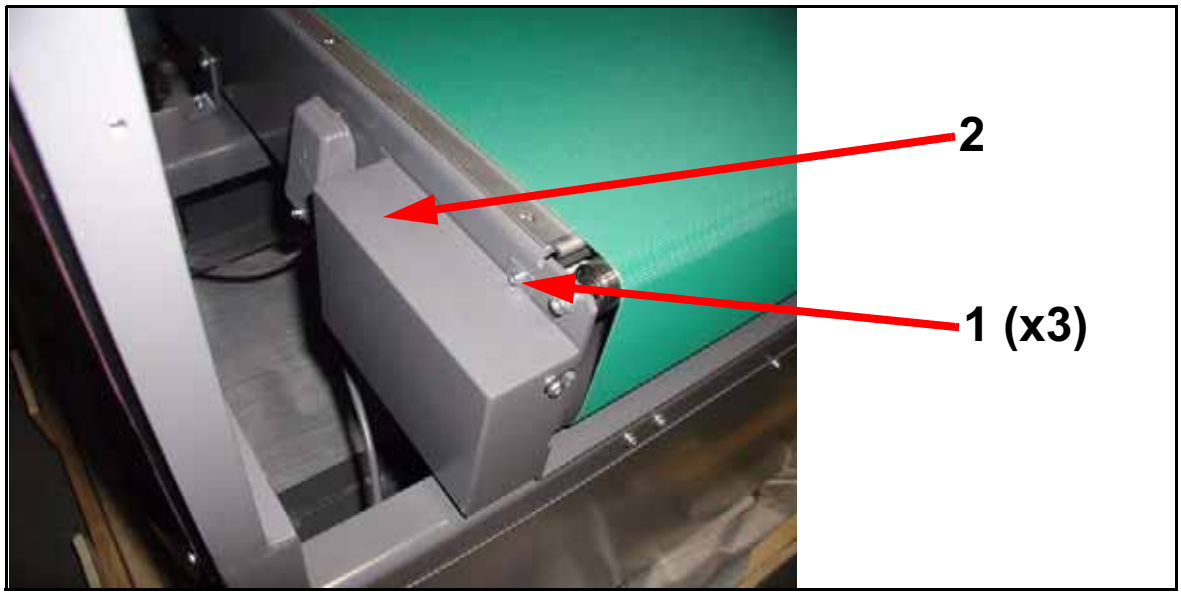

Figure 6-15. Exit Conveyor Drive Chain Cover

3 Use a small paint brush to apply a thin but thorough coat of oil to chain (1 in Figure 6-16).

4 Wipe up spilled or excess oil.

5 Reattach chain cover and rear guard.

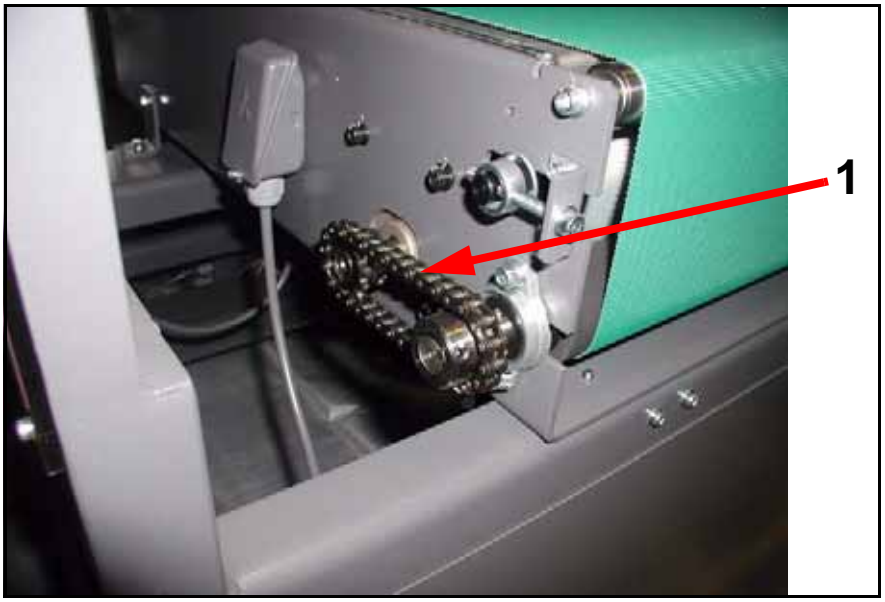

Figure 6-16. Exit Conveyor Drive Chain

6.17 Lubricate Film Feed Drive Chain

Tools Required:

- Cleaning Wipes
- Medium Phillips Tip Screwdriver
- SAE 30 Motor Oil
- Small Paint Brush

Warning

Turn off, lock out and tag machine's electrical and air sources according to your company's procedures before servicing machine. You can be severely injured if you do not.

1 Unscrew cover screws (1 in Figure 6-17) and slide cover (2) away from chain area.

Figure 6-17. Film Feed Drive Chain Cover

2 Use a small paint brush to apply a thin but thorough coat of oil to chain (1 in Figure 6-18).

3 Wipe up spilled or excess oil.

4 Replace cover.

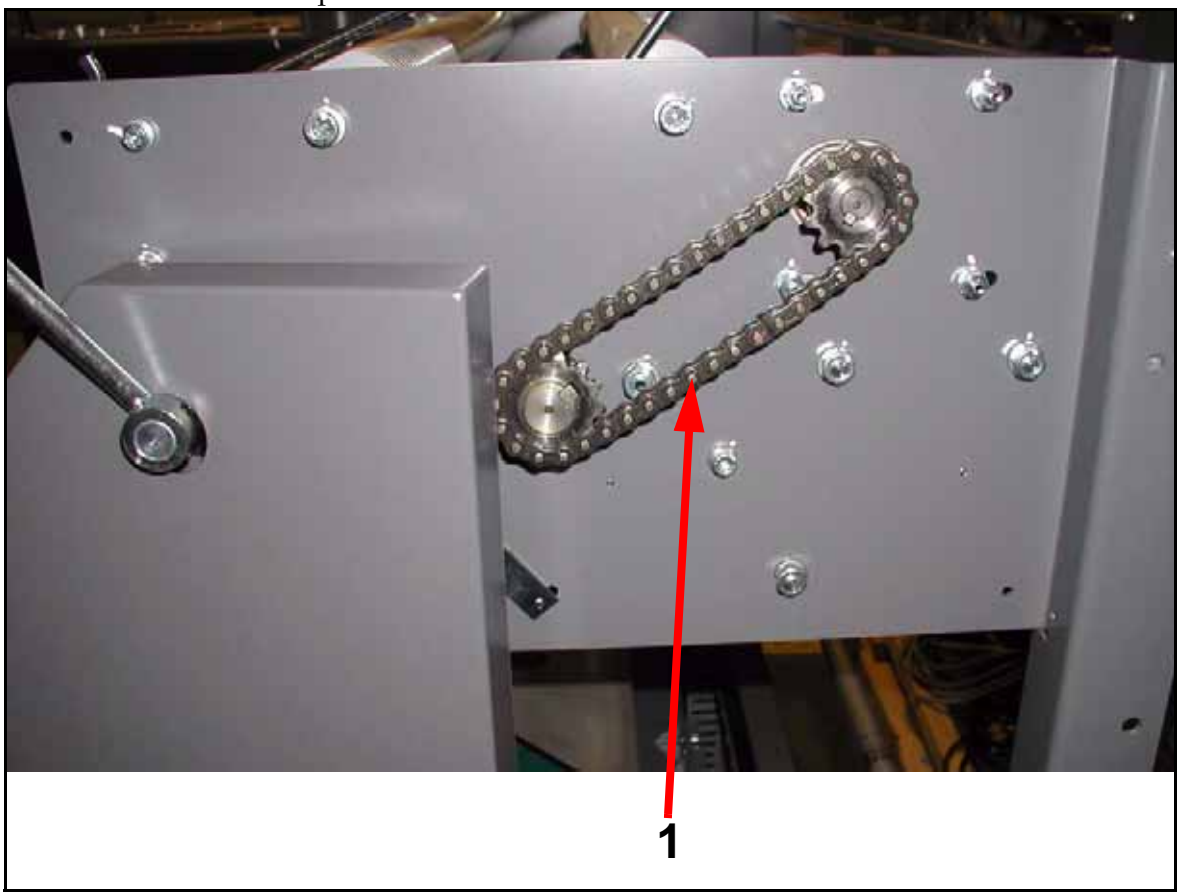

Figure 6-18. Film Feed Drive Chain

6.18 Greasing Zerk Fittings on In-Feed Lug Conveyor (Optional)

Tools & Materials Required:

- Clean Rag
- No. 2 General Purpose Lithium Grease
- Standard Size Grease Gun with Standard Nozzle

1 Apply one pump of grease to each fitting on grease manifold (1 in Figure 6-19). Read label next to manifold for special instructions

2 Wipe up excess grease.

Figure 6-19. Zerk Fitting Manifold

6.19 Checking Fasteners for Tightness

Tools Required:

- Adjustable-End Wrench
- Medium Flat-Tip Screwdriver
- Medium Phillips-Tip Screwdriver
- Set of Metric Hex Wrenches

Warning

Turn off, lock out and tag machine's electrical and air sources according to your company's procedures before servicing machine. You can be severely injured if you do not.

1 Check all fasteners on machine for tightness.

6.20 Changing Air Filter Element

Tools Required:

- None

Part Required:

- SMC AF30P-060S Air Filter Element

Warning

Turn off, lock out and tag machine's electrical and air sources according to your company's procedures before servicing machine. You can be severely injured if you do not.

1 Disconnect air hose from machine or shut off main air valve (1 in Figure 6-20).

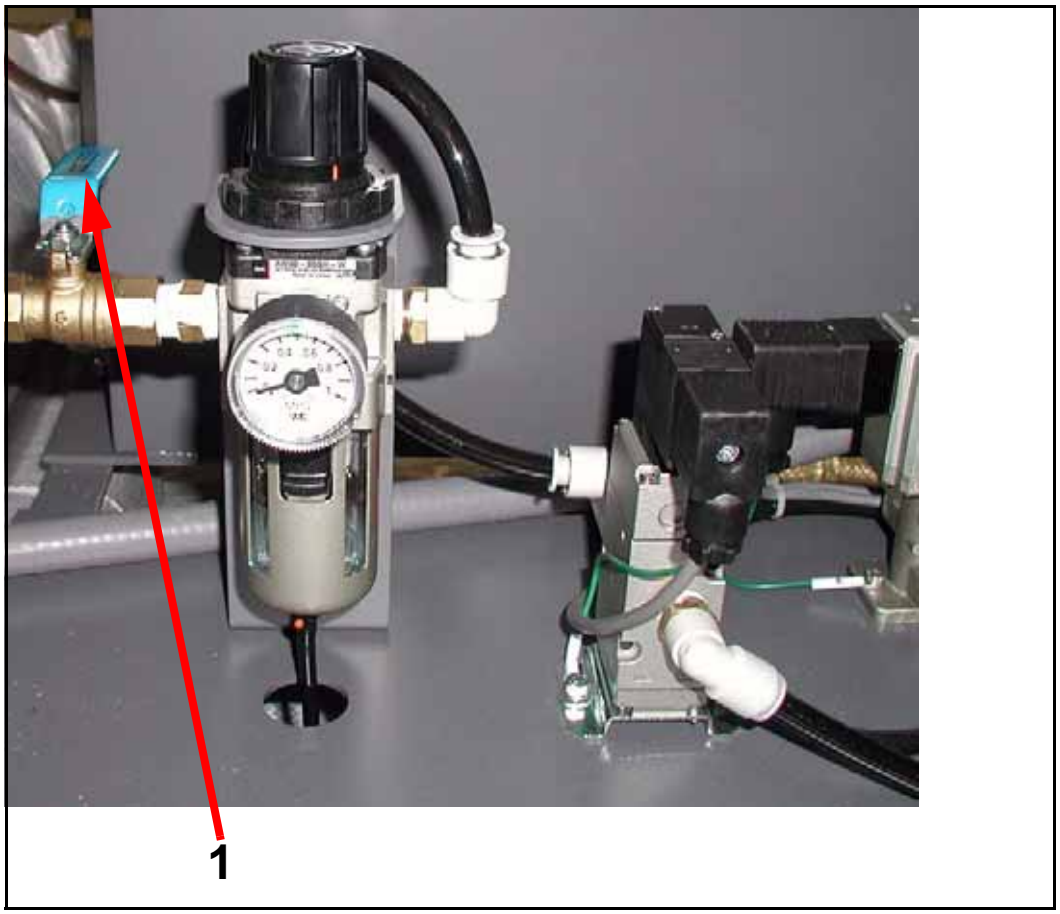

Figure 6-20. Air Valve

2 Press down on tab (1 in Figure 6-21).

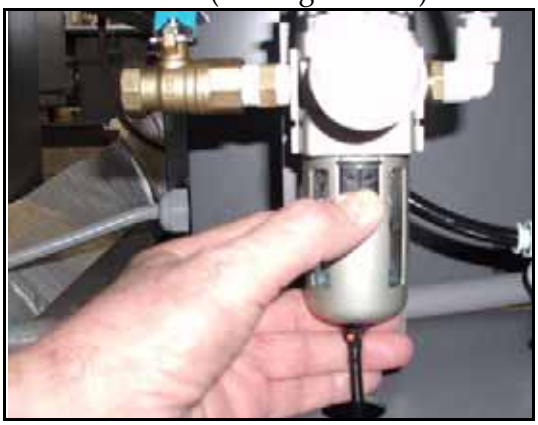

Figure 6-21. Tab

3 While still pressing on tab, turn bowl so that tab aligns with mark (1 in Figure 6-22) and pull bowl off of body.

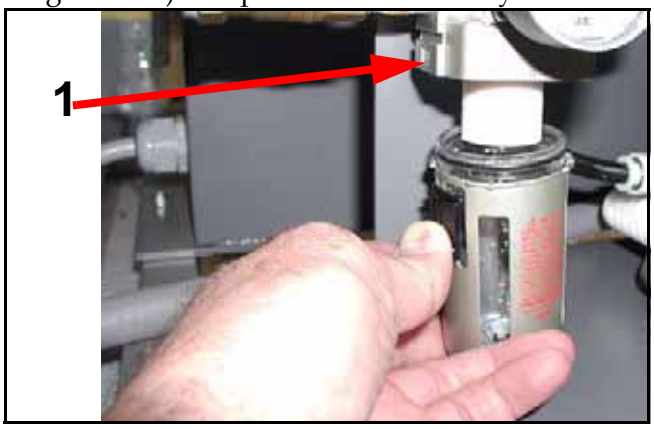

Figure 6-22. Turning & Removing Bowl

4 Unscrew baffle (1 in Figure 6-23) and pull filter element (2) off of filter body.

5 Reverse step to reassmble.

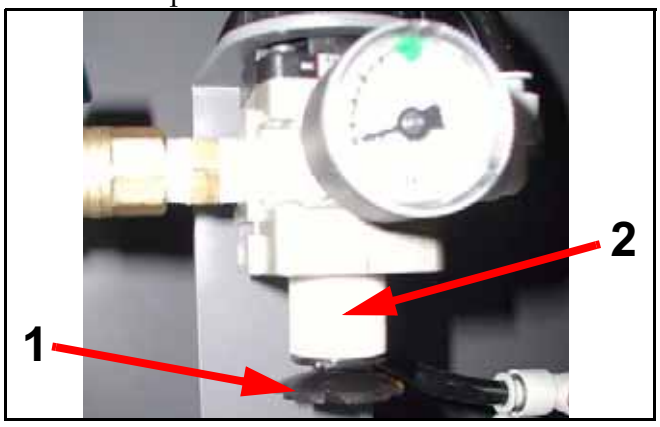

Figure 6-23. Removing Filter Element

Maintenance & Adjustment

7

7.1 Introduction

This chapter covers various maintenance & adjustment procedures for the machine.

7.2 Product Setup Chart

A Product Setup Chart is used to record specific settings for quick and easy setups. Any measurements supplied on this chart are approximate. Adjustments may need to be made for actual set up of the machine.

The following information is used when changing from one product to another

Product Program #	1	2	3	4
Product Width				
Product Length				
Product Height				

Table 7-1: Product Setup Chart

7.3 Product Setup Procedures

7.3.1 Determining Product Size

To determine the size of the product, measure the dimensions of the product to be processed through the machine.

The following illustration shows how product size is measured and labeled. The package as shown is 9″-wide, 12″-long and 3″-high or (9″ x 12″ x 3″).

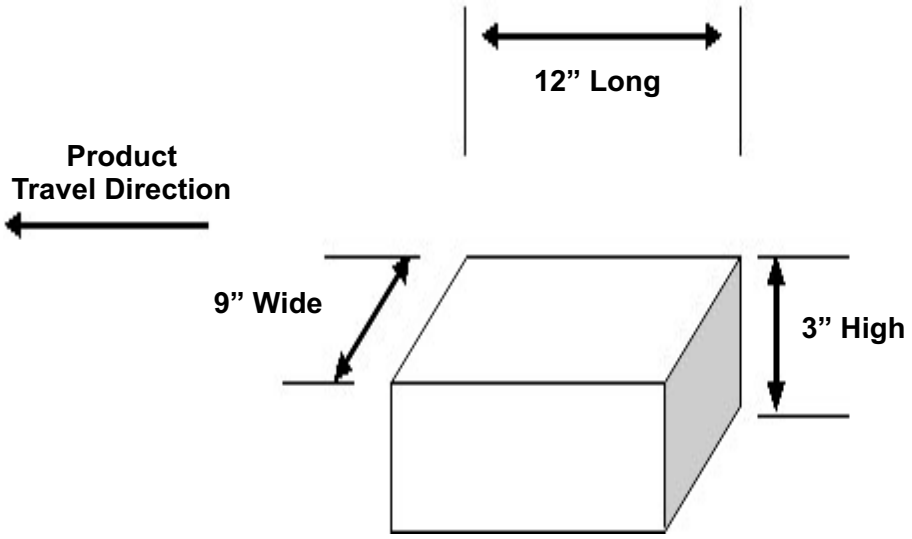

Figure 7-1. Determining Product Size

7.3.2 Determining Product Orientation

It is important to determine the product orientation relative to the machine flow. In some cases the film width sizes available may determine product orientation. These measurements are used to setup the entire machine. Running this same package shown above as 12″ W x 9″ L x 3″ H, will require wider film. In this fashion there would be fewer film roll changes and greater use of the film.

NOTE: Product width always corresponds to the dimension that is perpendicular to the machine flow.

7.3.3 Product-Sizing Formula

The length of the seal bars and the conveyor bed width determines the machine's capability to run a product. To determine if the machine has the capacity to run a specific product, determine the answer to the following questions. If the answer is YES to both questions, the product can be run on the machine. If not, the product may need to be re-oriented or may not be able to be run on the machine.

1 Does the product fall within the maximum and minimum product specifications?

Parameter	L18	L26
Width	.5″ minimum - 15″ maximum	.5″ minimum - 19″ maximum
Length	4″ - 18.5″ (1.5″ minimum with optional closing conveyor)	4″ - 26.5″ (1.5″ minimum with optional closing conveyor)
Height	1/4″ - 6″ (0″ minimum with optional vertical photo eye)	1/4″ - 8″ (0″ minimum with optional vertical photo eye)

Table 7-2: Determining Product Size - Product Specifications

2 Does the product configuration fall within the seal bar specifications?

Parameter	L18	L26
Cross Seal Bar Length	Product Width + Height is less than or equal to 17.5″	Product Width + Height is less than or equal to 21.5″
Side Seal Bar Length	Product Width + Height is less than or equal to 19.5″	Product Width + Height is less than or equal to 27.5″

Table 7-3: Determining Product Size - Seal Bar Specifications

7.3.4 Film-Sizing Formula

Use the following information to determine the film width size that is most appropriate for the product you are running.

For products that are less than 3″ tall:

Width + Height +3″ = Center-folded film width

For product that are less than 1″ tall:

Width + 1″ + 3″ = Center-folded film width

For products that are 3″ and taller:

Width + Height + 4″ = Center-folded film width

7.3.5 Film Cut-Off Formula

The formula that is used is equal to the bag length. This is especially important when using printed, registered film. The cut-off value is determined by the repeat pattern of the film registration mark on the printed film.

Length + (1.50 x Height) = Film Cut-Off

NOTE: These formulas are intended as guides for determining the proper film size and cut-off for a given product. Certain products may require more or less film than determined by formulas due to the product's specific characteristic (size/shape).

7.4 Positioning the Film Inverter

Use the adjustment wheel to position the film inverter plate.

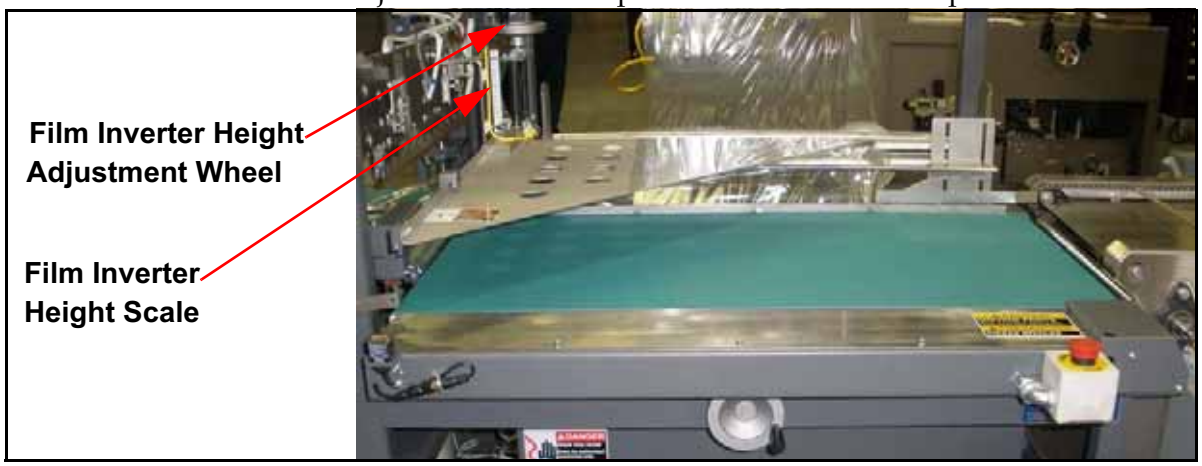

Figure 7-2. Positioning the Film Former

1. Place a product beneath the film inverter plate on the infeed conveyor.
2. Use the height positioning adjustment wheel to position the inverting plate approximately 1/4″ above the top of the product.

7.5 Positioning the Seal Head

Use the adjustment hand crank to position the seal head. The height of the seal head should be set to the same as the height of the film inverter plate - ¼" above the top of the product.

.

Figure 7-3. Positioning the Seal Head

7.6 Positioning the Infeed Conveyor

Use the adjustment hand wheel to position the in-feed conveyor. The position of the in-feed conveyor should be set to the width + ½ of the height of the product. This measurement should be from the in-feed product guide to the inside film clamp of the MD seal bar. The MD seal bar is the seal bar that is parallel to product motion.

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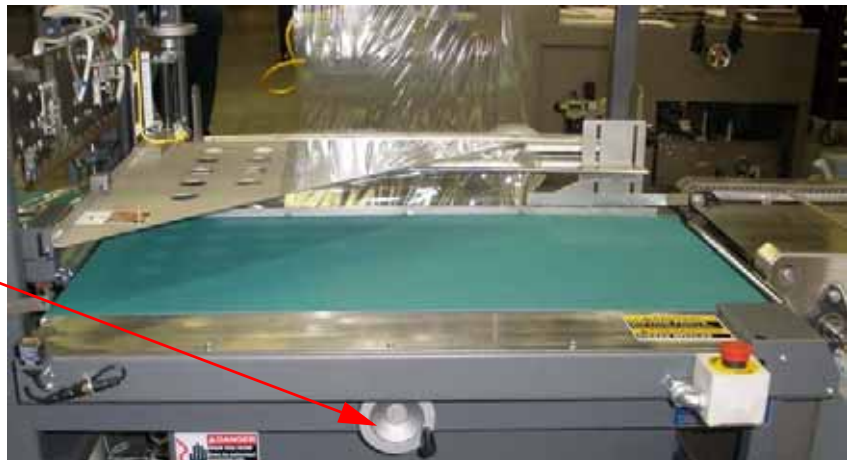


Figure 7-4. Positioning the Infeed Conveyor

7.7 Adjusting the Conveyor Speed

The conveyor speed can be set through the operation interface. The speed range is 49 to 95 feet per minute. Changing the conveyor speed, however, will effect other adjustments such as print registration photo eye position and seal position. All of the saved recipes will need modification.

7.8 Adjustments

7.8.1 Film Roll Positioning

Read the scale for positioning the film inverter. Loosen the film guide thumb screws and slide the guides all the way to the sides of the film rack. Move one guide to the right and the other to the left. We will use 10 for the film inverter scale height. Your set up will be different. Place the film roll on the film cradles and align the folded edge of the roll to the 10 ring on the roller. Move the film guides in to the sides of the film roll, leaving a little play to allow the roll to spin freely. Tighten the thumb screws so the guides will not move during production.

7.8.2 Dancer Bars

Film tension is set by the counterweight on the dancer bar. If the counterweight is moved toward the pivot point of the dancer arm, the film tension will increase. If it is moved away from the pivot point, the film tension will decrease. This setting may change from one product and another depending on the film roll width. Narrow film needs to have the dancer counterbalance set lighter than a wide roll of film.

NOTE: Increased film tension will not result in a tighter wrap on the product, but will cause weak seals and broken film webs.

7.8.3 Lug Infeed Conveyor (Optional)

The lug in-feed conveyor is to have the right hand side guide lined up with the in-feed product guide that is directly under the long side of the film inverter running lengthwise of the machine.

Running the lug conveyor with the product staging option turned off.

The speed of the lug conveyor is to be set slower than the machine belt speed. As the products are released onto the belted in-feed conveyor, the space between products should be great enough that the seal process is completed before the next product enters the seal area. Tune this speed to have the next product almost blocking the photo eye when the seal bar reaches the full open limit switch. This method of operation will achieve the greatest possible products per minute (ppm) speeds. This method also allows the lug in-feed conveyor to run steady without stopping and starting.

Running the lug conveyor with the product staging option turned on.

If it is set up as above the results will be the same. If the conveyor speed is increased and the spacing is closer together, the resulting motion would be intermittent. The belted in-feed would deliver a product at the photo eye during the seal cycle. The belted and lug in-feed will stop until the seal bar open switch is made. This method will benefit high speeds but is not acceptable for stacked product.

Running the lug conveyor with multiple products stacked 2 high 3 long. (6 pack of tuna cans)

Run staging off mode. Remove the lugs from under the in-feed so there is 4 foot lug spacing. Set the wrapper conveyor speed at 70 feet per minute (fpm). Adjust the lug conveyor speed to be slightly faster then the wrapper 72 fpm. These settings will keep the 3 deep product group tight and operate at approximately 22 to 23 ppm using 3 inch diameter cans.

7.9 Seal Head Speed Calibration

Caution

This is factory setup. This procedure may need to be performed after changing an air cylinder or replacing a valve. Only qualified technicians should perform this setup procedure.

A unique feature of the sealing system is its stroke limiting seal head. This feature allows the fastest production speeds for all product heights. Because the stroke of the seal cylinder is limited to its normal mechanical cushion located at its rod end, it is not used.

Instead, a seal head cushion valve is incorporated into the system to electronically energize during a downstroke to provide “second stage” height of the seal head. Therefore, after a seal head height adjustment or after a power up of the machinery, the machine will display the AUTO CALIBRATION SEQUENCE screen as it performs a slow and deliberate seal cycle to measure the new seal bar height. This information is then used to calculate the proper time to activate the seal head cushion valve during a normal seal cycle.

See *Operator Interface* in *Chapter 5* for detailed step-by-step instructions on how to perform this procedure.

7.10 Seal Bar Safety Test

Warning

Never put your hands in the seal area when the machine is operating. Severe cuts and burns can result due to contact with the seal bar. Only a qualified technician should perform the safety seal bar test.

The seal bar is equipped with spring-loaded safety shields. Safety switches mounted on the seal bar detect any deflection of the safety shields during the down stroke of the seal head. If any one of the safety switches detects the deflection of a safety shield during a seal cycle, the seal is aborted and an error message appears, indicating which safety shield caused the fault.

1. Ensure all safety seal bar safety components are installed and operational. These include: safety shields, safety shield springs, safety switches, and safety override switch.
2. Ensure that the safety switches on the seal bar detect a minimum of 1/8" deflection of the safety shield.
3. Ensure that the safety shield spring tension is set correctly.

NOTE: The tension should be set to prevent false deflection of the safety shields due to the inertia of the downward movement of the bar. Too much tension will restrict the seal bar safety switch from detecting a true problem.

4. Close the **master air supply regulator** valve.
5. Manually push the seal bar down until the safety shields just make contact with the seal pad.
6. Adjust the safety override switch so that it is activated with the seal head in the UP position.
7. Open the **master air supply regulator** valve.
8. Press the manual seal push button to activate a seal cycle.
9. If a seal bar safety fault is indicated, readjust the override switch downward approximately 1/16" so that the switch will be activated sooner. Make additional adjustments as needed until a manual seal can be made consistently without tripping the seal bar safety fault.
10. Test the setup by placing a 3/8" thick piece of cardboard between the seal bars and press the **manual seal** push button to activate the seal cycle. The seal head should contact the cardboard and immediately return to the OPEN position and an error message should be displayed on the operator interface.

a. If the cardboard was detected, the procedure is completed.

b. If the cardboard was not detected, readjust the override safety switch slightly upward and press the **manual seal** push button to activate the seal cycle again. Continue this process until both the cross and side seal bars detect the cardboard.

7.11 Replacing Infeed Belt

Tools Required:

- Set of Metric Hex Wrenches
- Small Flat-Tip Screwdriver
- Small Measuring Scale

Warning

Turn off machine's main disconnect switch before doing this procedure. You may get seriously injured if you do not.

1 Loosen conveyor tension screws (1 in Figure 7-5).

2 Unscrew side cover screws (2) and side remove covers (3).

3 Unscrew chain cover screws (4) and remove side cover (5).

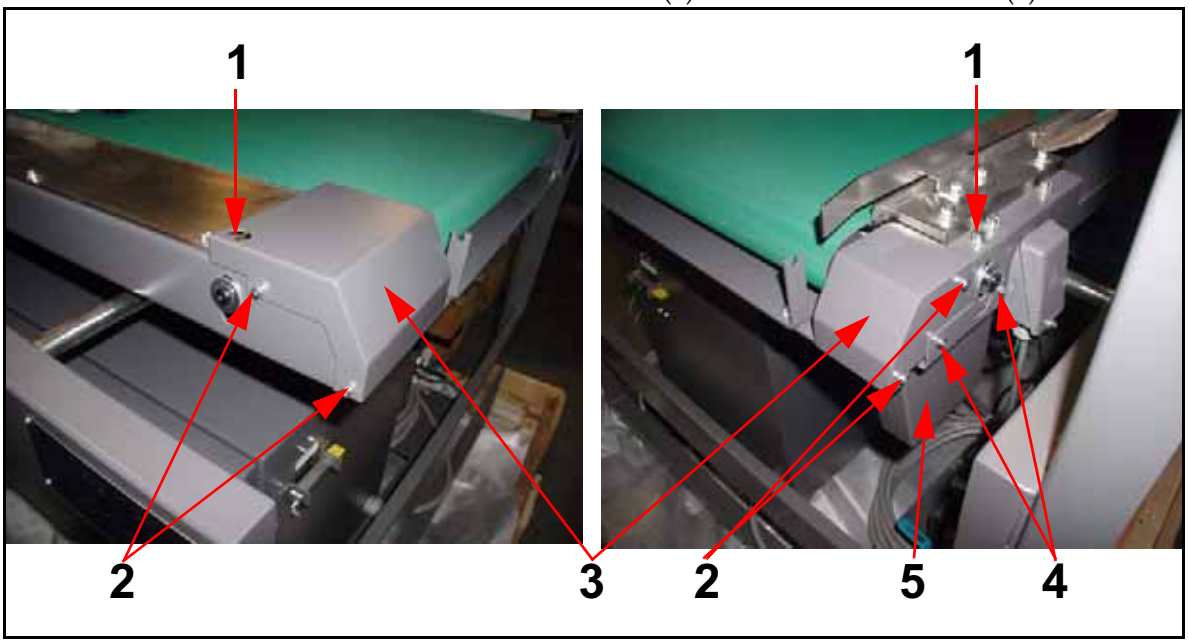


Figure 7-5. Conveyor Side Covers

4 Loosen front cover screws (1 in Figure 7-6) and remove front cover (2).

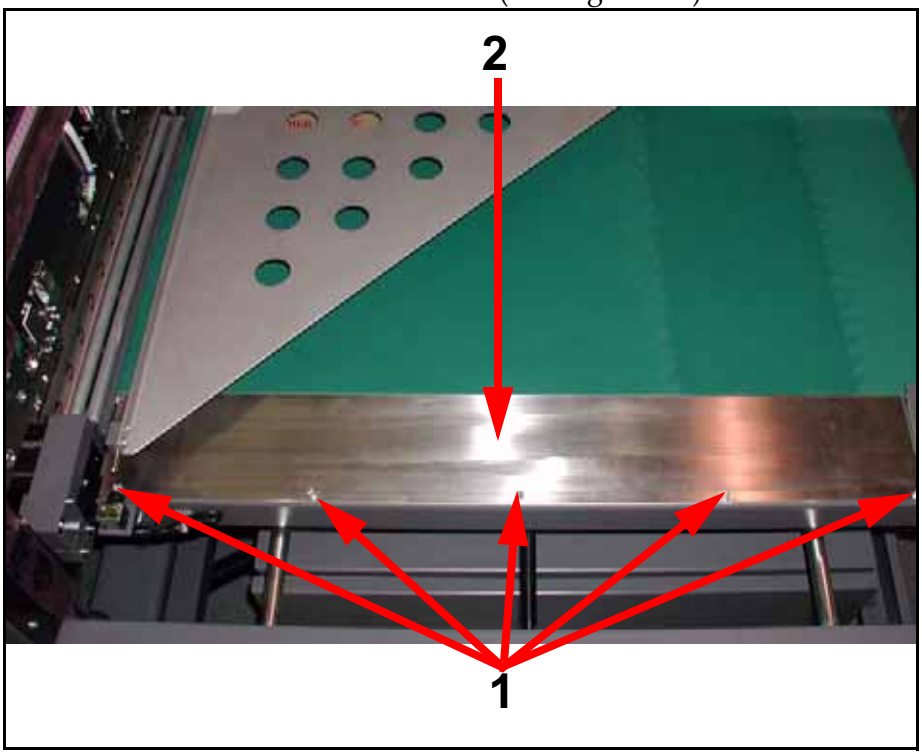


Figure 7-6. Front Cover Screws

5 Unscrew left pillow block screws (1 in Figure 7-7).

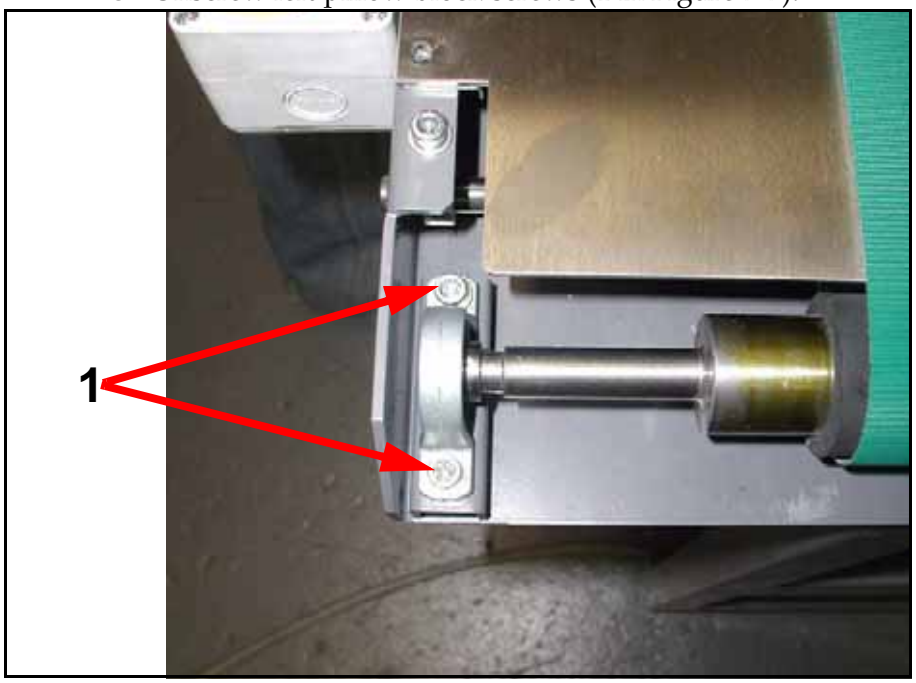


Figure 7-7. Left Pillow Block Screws

6 Loosen but do not remove right pillow block screws (1 in Figure 7-8).

7 Remove master link from chain (2).

8 Remove pillow block screws (1).

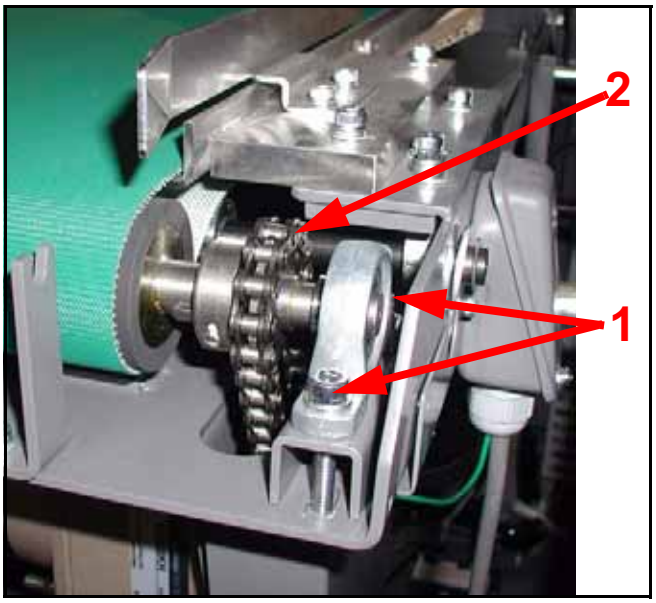


Figure 7-8. Right Pillow Block Screws

9 Slide belt off of machine.

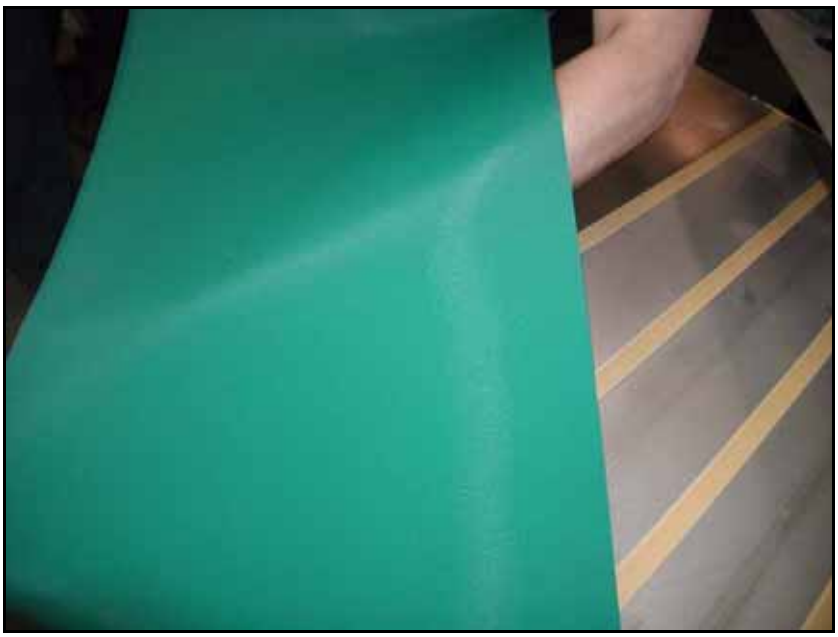


Figure 7-9. Belt Removal

10 Slide new belt over drive roller, over bed and fully onto machine as shown below.

w

Figure 7-10. Belt Installation

11 Reconnect chain (1 in Figure 7-11).

12 Slide pillow block (2) back until chain is taunt and secure block in place with bolts (3) and nut plate (4).

13 Measure gap shown in figure below.

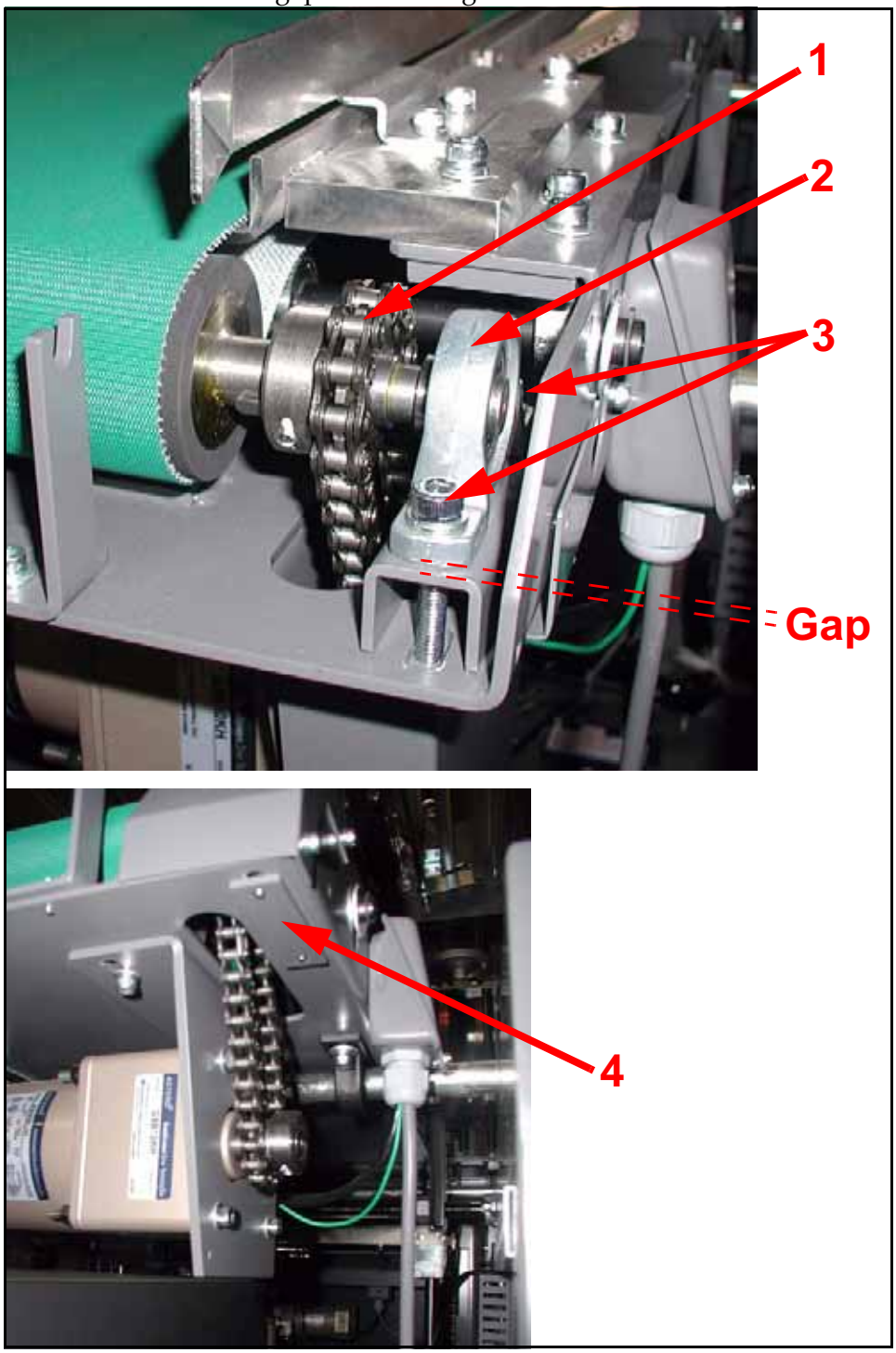


Figure 7-11. Reinstalling Chain

14 Secure left pillow block in place with bolts (1) and nut plate (2). Make sure the gap shown below matches the gap shown in Figure 7-11.

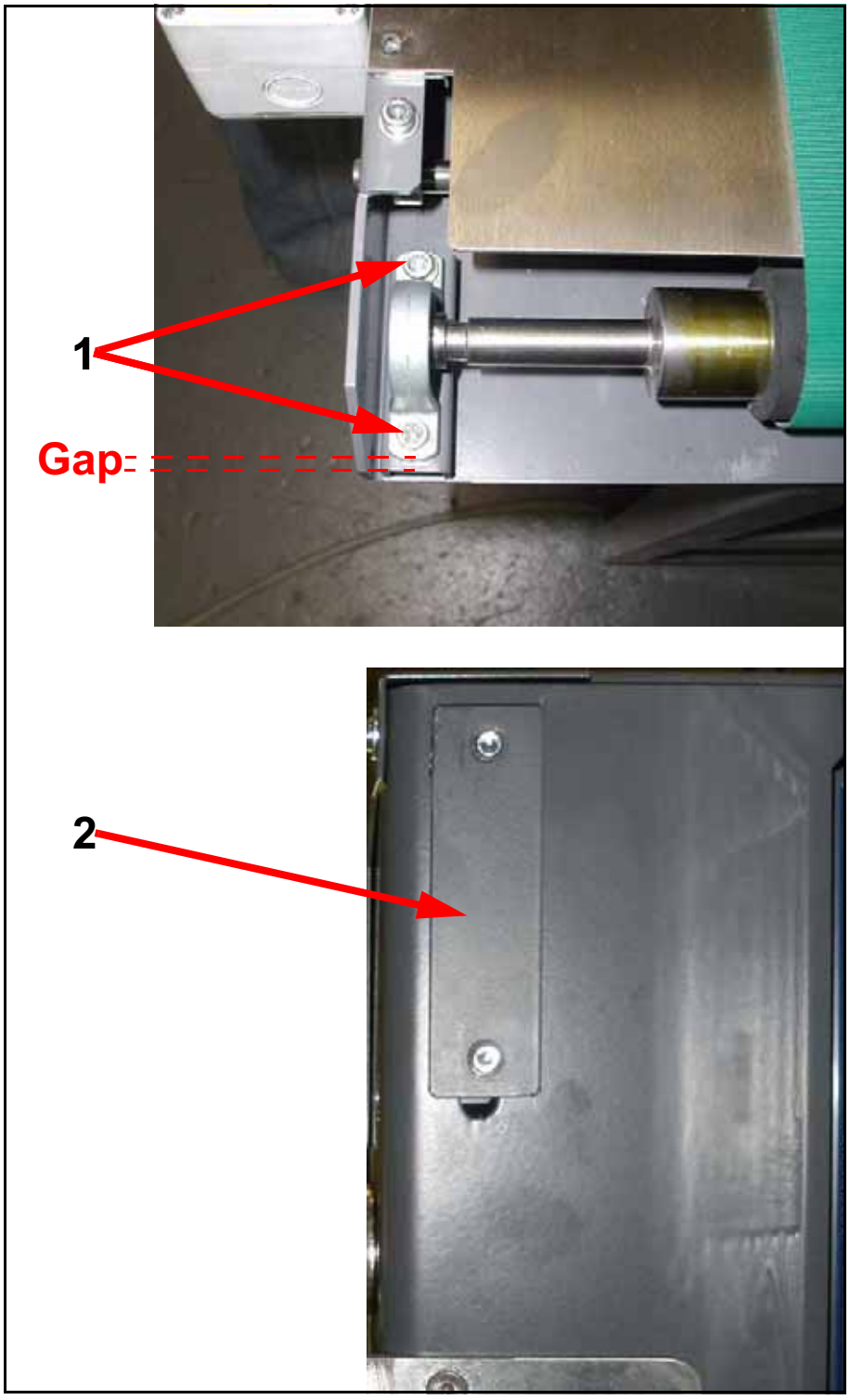


Figure 7-12. Left Pillow Block Mounting

15 Alternately and equally tighten conveyor tension screws (1 in Figure 7-13) until, under moderate pressure, there is about 3" of slack at the center of the belt.

16 Run machine and check if belt tracks to the left or right. If so, adjust conveyor tension screws accordingly. As a rule of thumb, loosening a tension screw will make the belt track to the outside.

17 Reattach side covers (2) and chain cover (3).

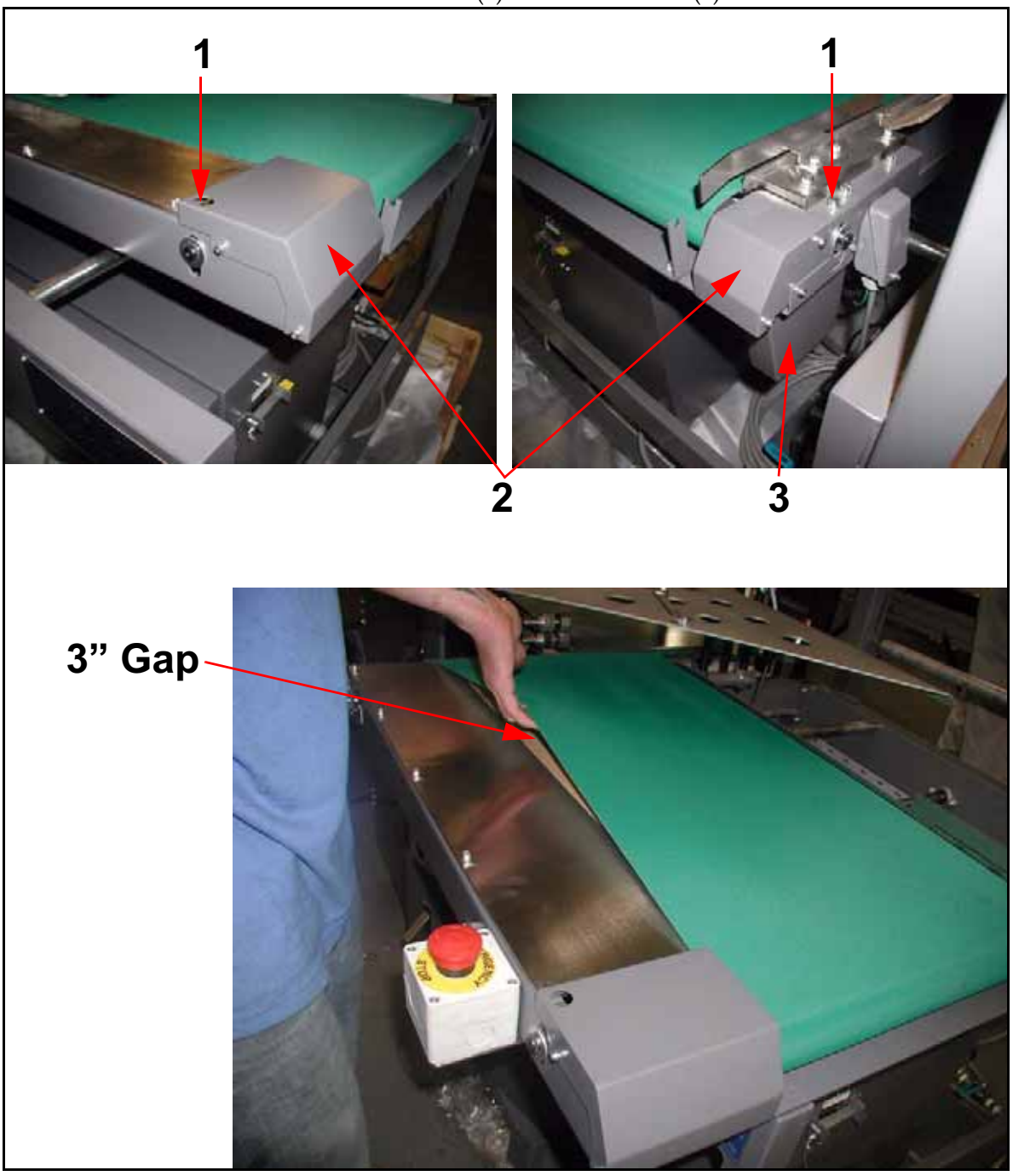


Figure 7-13. Conveyor Adjustment

18 Reattach front cover (1 in Figure 7-14).

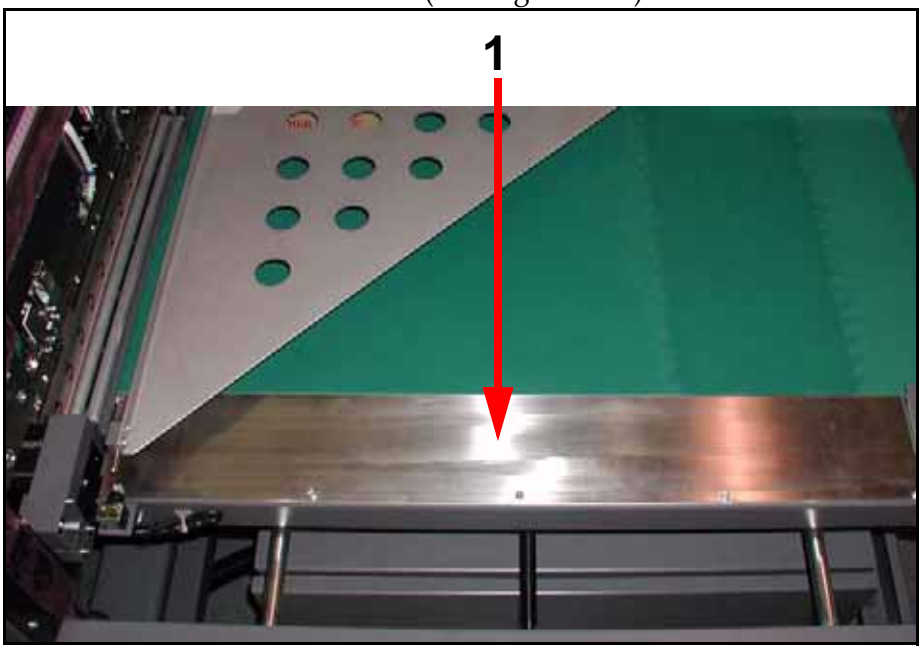


Figure 7-14. Front Cover Screws

Procedure Complete

7.12 Removing & Installing Seal Bar

Tools & Materials Required:

- Cable Ties (2)
- Diagonal End Cutters
- Medium Phillips Tip Screw Driver
- Metric Open-End Wrench (Include with Machine's Tool Kit)
- Set of Metric Hex Wrenches
- Set of SAE Hex Wrenches
- Set of SAE Hex Wrenches

Warning

Turn off machine's main disconnect switch before doing this procedure. Also, let seal bar cool to room temperature. You may get seriously injured or burned if you do not.

7.12.1 Removing Seal Bar

1. Turn off main disconnect switch.
2. Unscrew four guard mounting screws (1 in Figure 7-15) and remove guard (2).

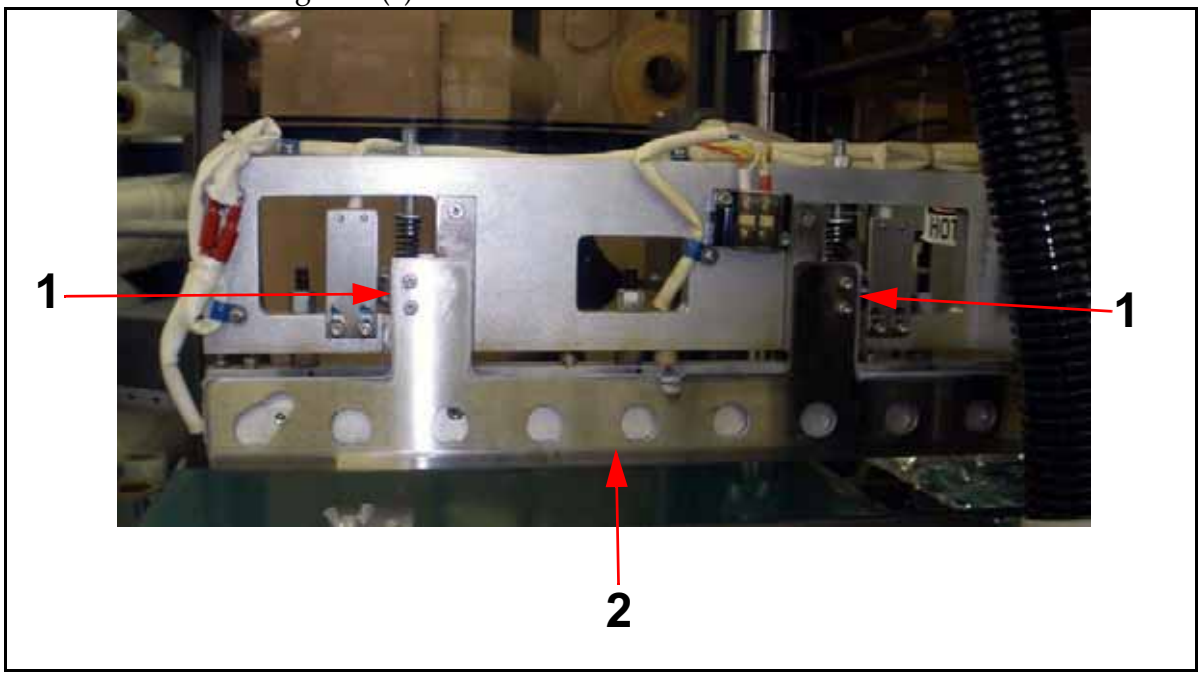


Figure 7-15. Guard Removal

3 Cut and remove cable ties (1 in Figure 7-16) on heater wires.

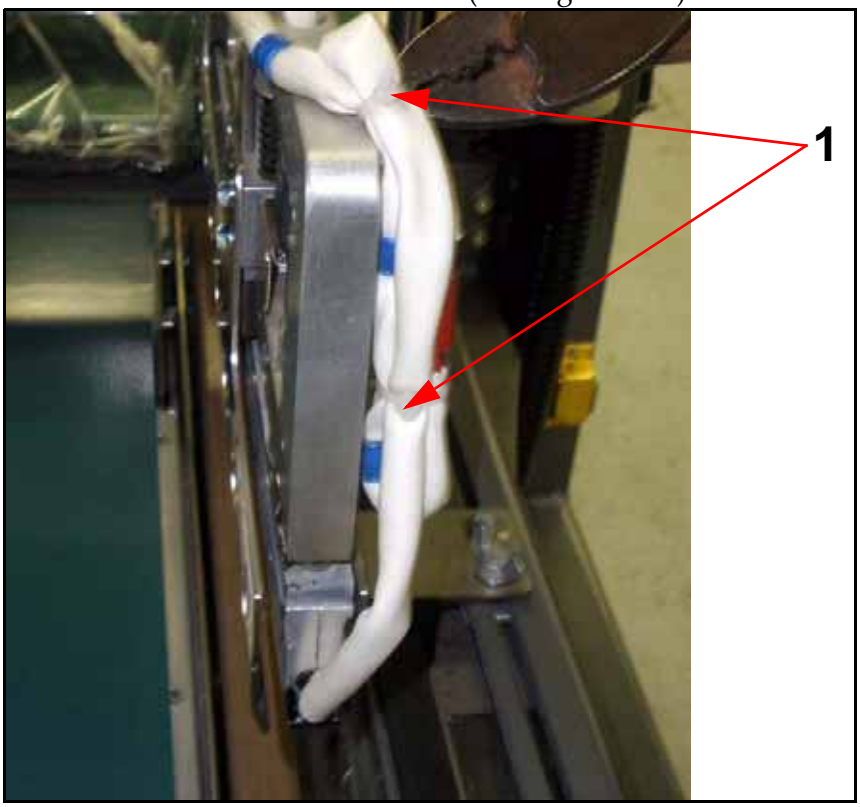


Figure 7-16. Cutting Cable Ties

4 Disconnect heater element terminals (1 in Figure 7-17).

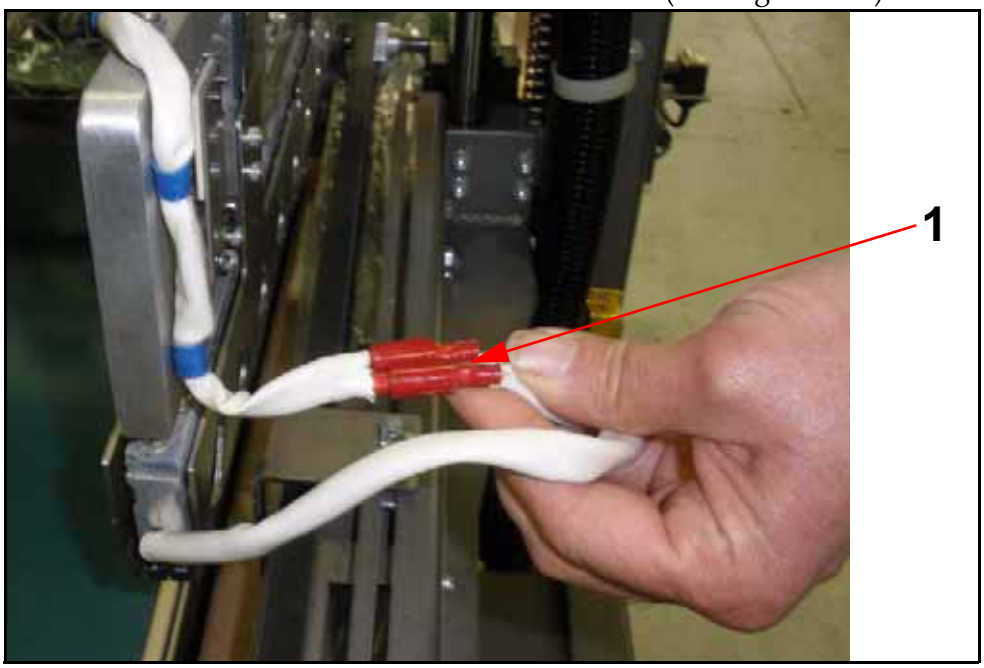


Figure 7-17. Heater Element Terminals

5 Remove thermocouple terminal cover (1 in Figure 7-18).

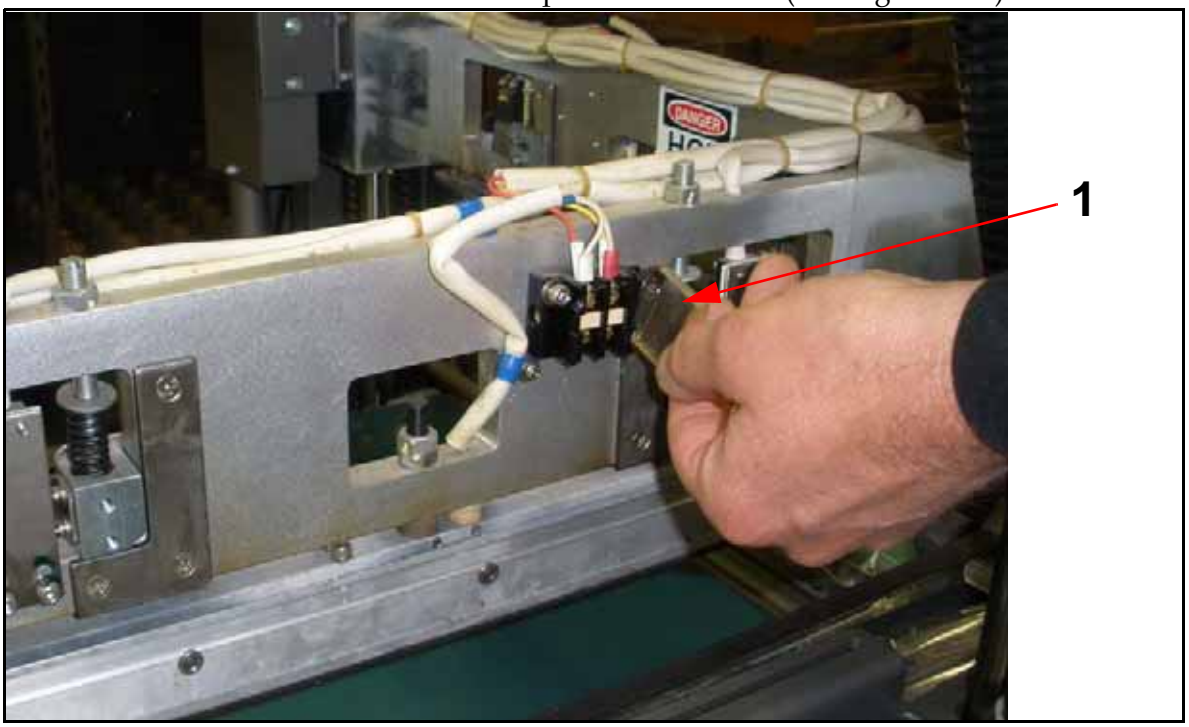


Figure 7-18. Thermocouple Terminal Cover

6 Loosen two screws (1 in Figure 7-19) and remove terminals.

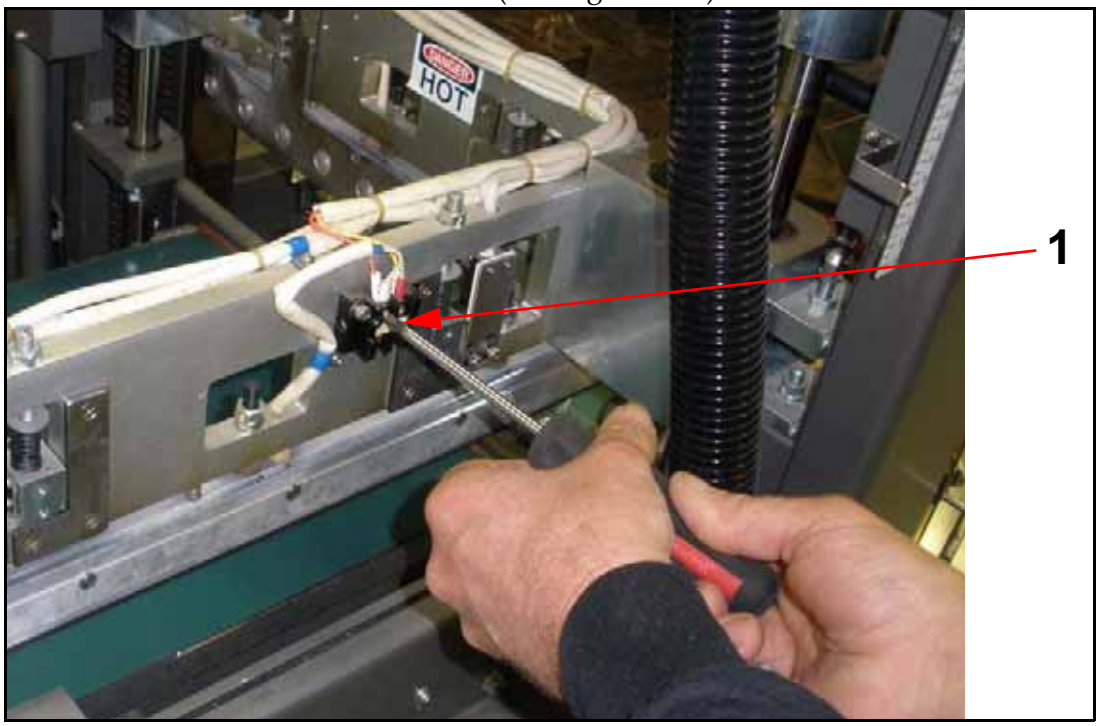


Figure 7-19. Thermocouple Terminals

7 Unscrew thermocouple cable clamp (1 in Figure 7-20).

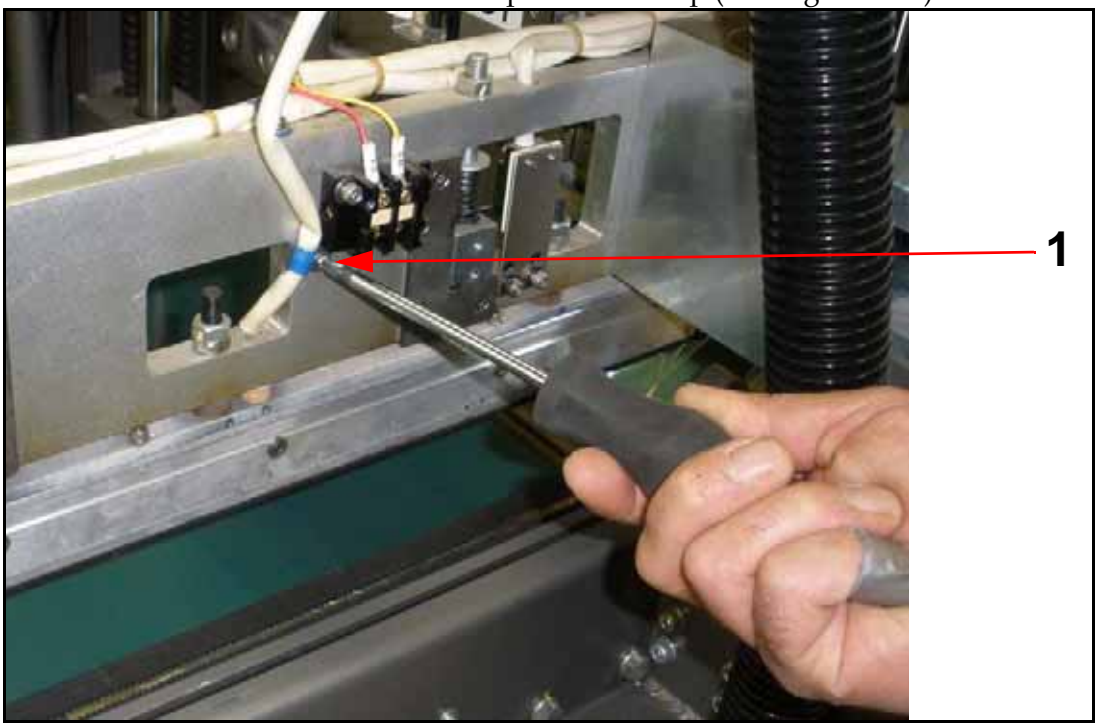


Figure 7-20. Thermocouple Cable Clamp

8 Loosen thermocouple set screw (1 in Figure 7-21).

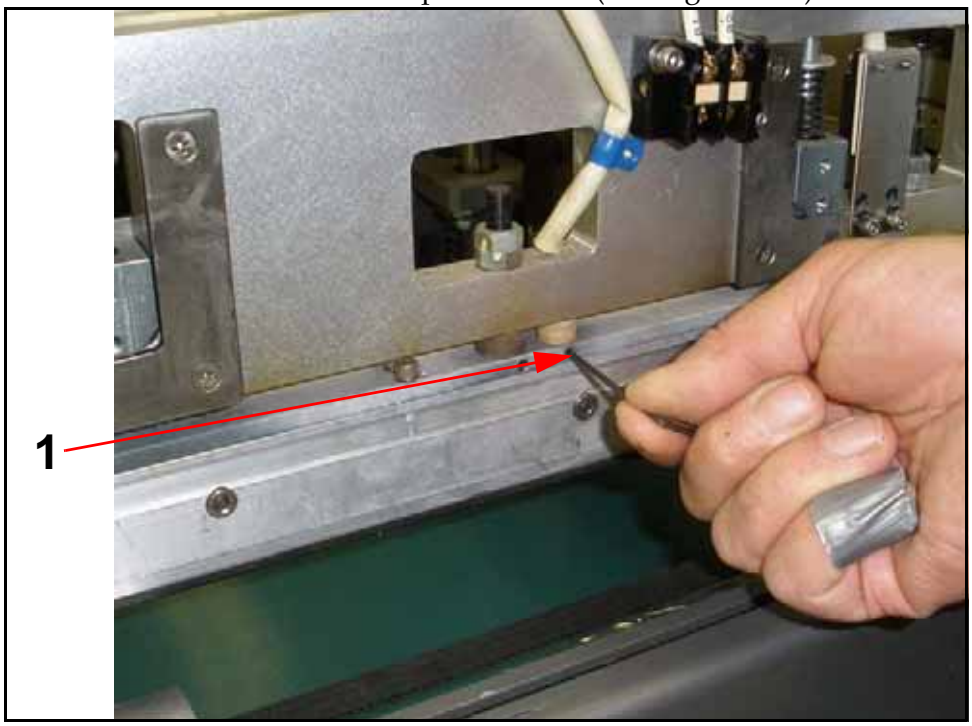


Figure 7-21. Thermocouple Set Screw

9 Pull thermocouple (1 in Figure 7-22) out.

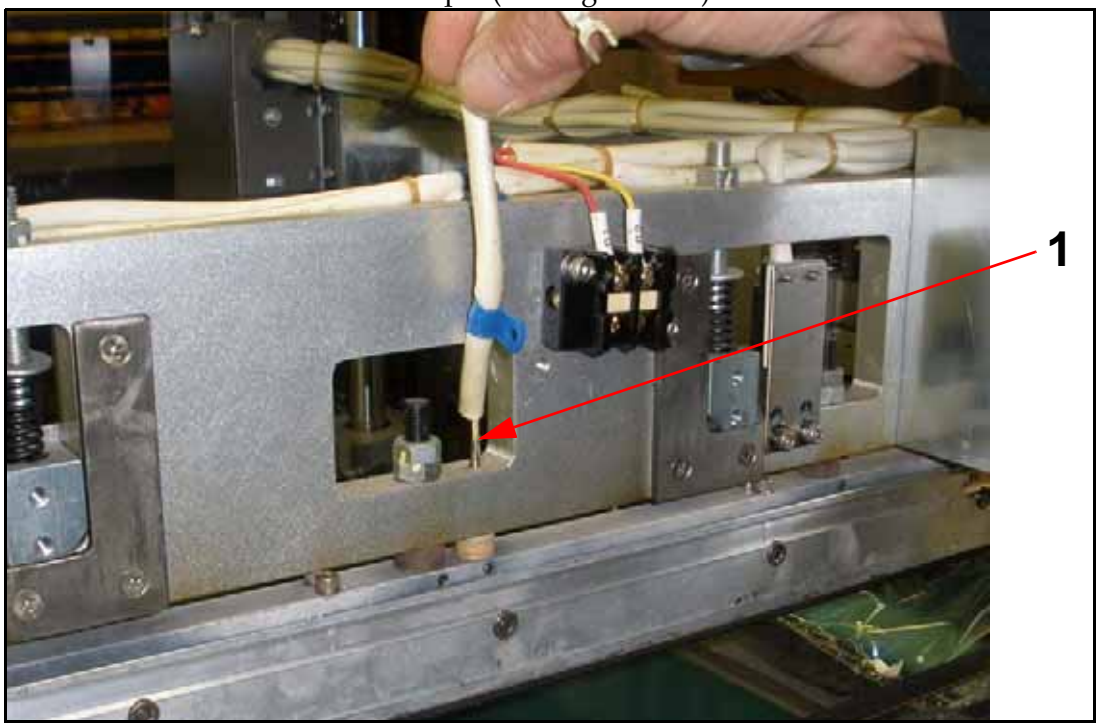


Figure 7-22. Thermocouple Removal

10 Remove thermocouple spacer (1 in Figure 7-23).

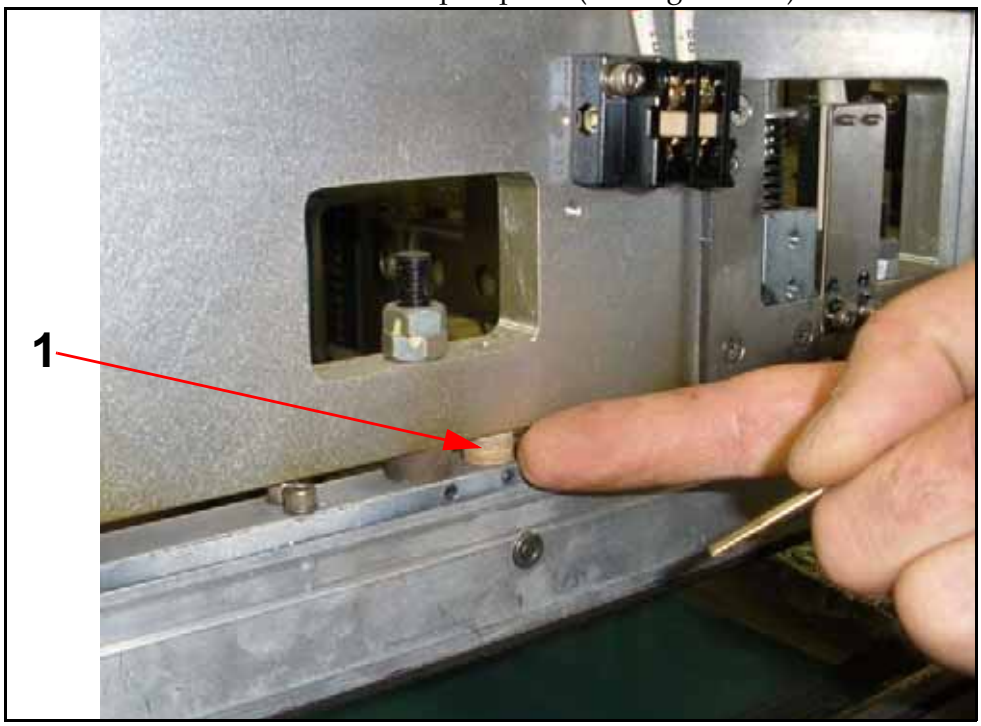


Figure 7-23. Thermocouple Spacer Removal

11 Unscrew mounting nuts (1 in Figure 7-24) and remove seal bar assembly (2).

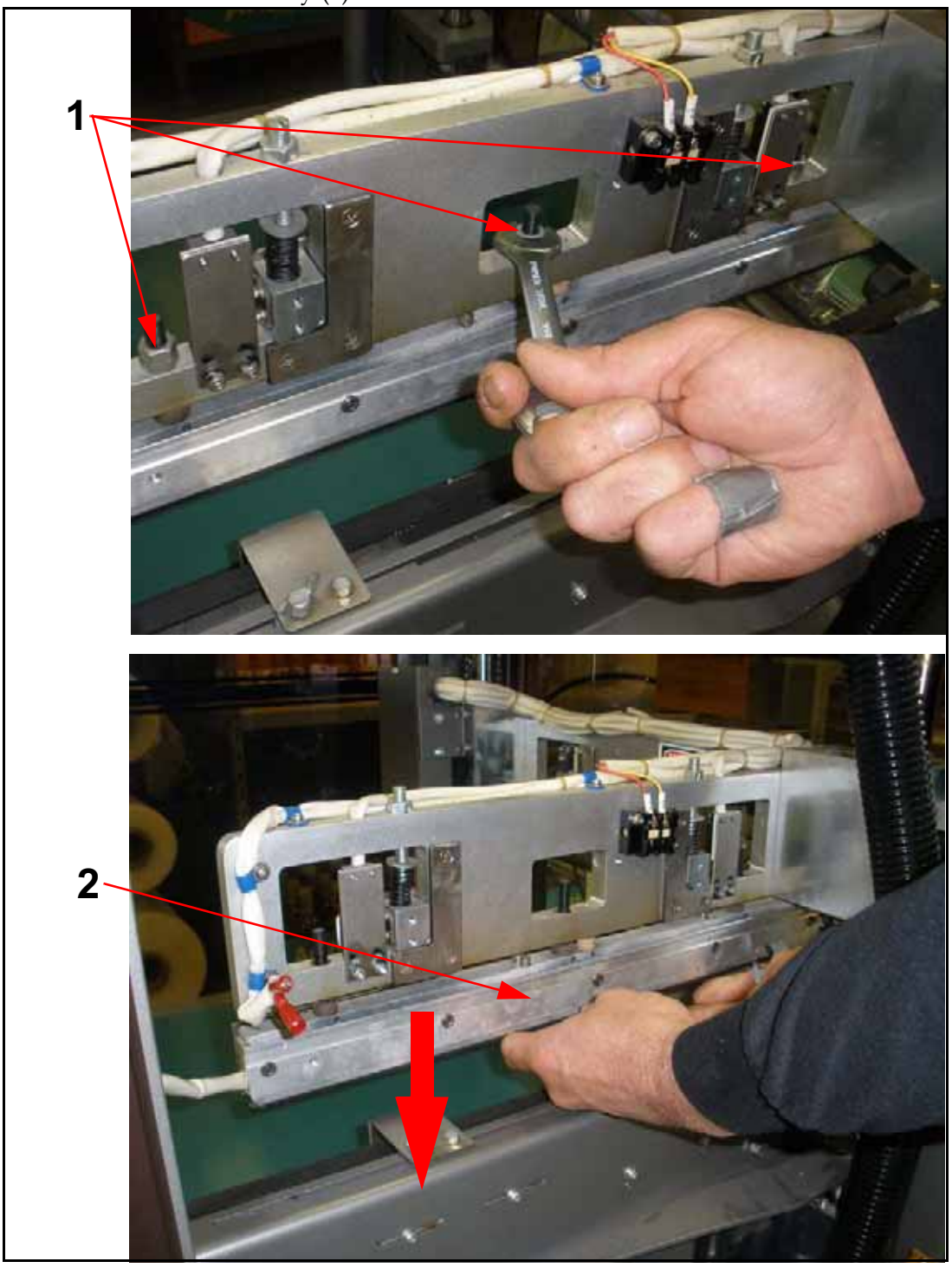


Figure 7-24. Seal Bar Removal

7.12.2 Installing Seal Bar

Warning

Turn off machine's main disconnect switch before doing this procedure. Also, let seal bar cool to room temperature. You may get seriously injured or burned if you do not.

1 Reverse steps for removing seal bar to reinstall it. Also follow the points below:

- When reconnecting thermocouple terminals, make sure white wire connects to terminal 81 and red wire to terminal 82.
- Make sure that tab (1 in Figure 7-25) in seal bar blade mates with slot (2) in perpendicular bar.
- *Continued on next page*

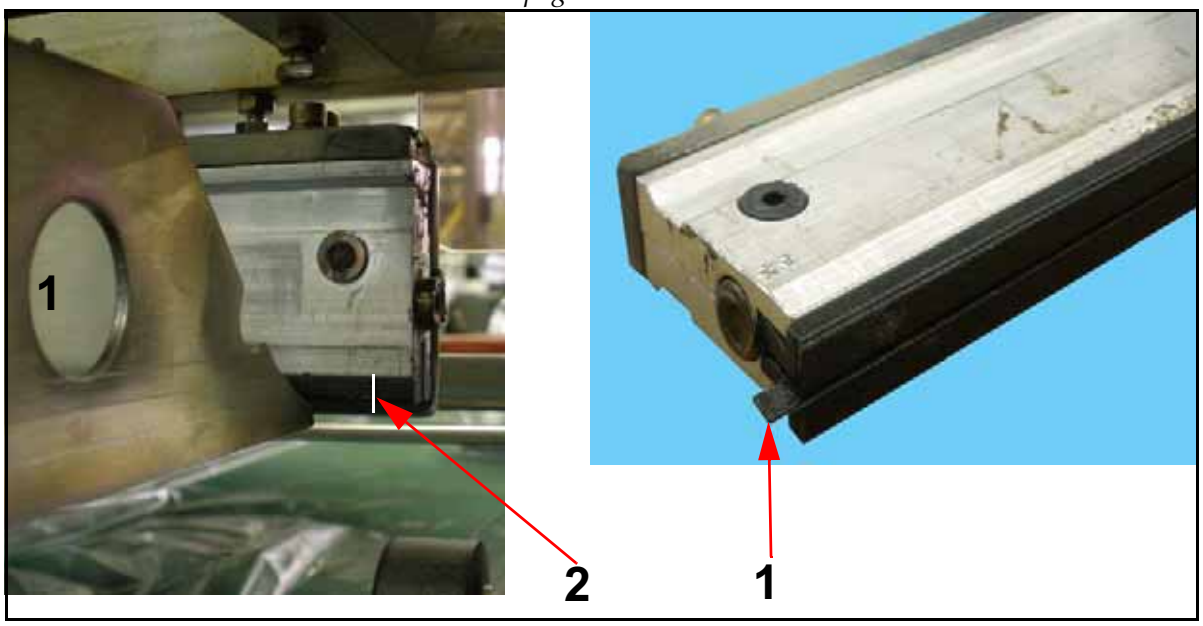


Figure 7-25. Blade Mating

- Secure heater element wires with cable ties (1 in Figure 7-26).

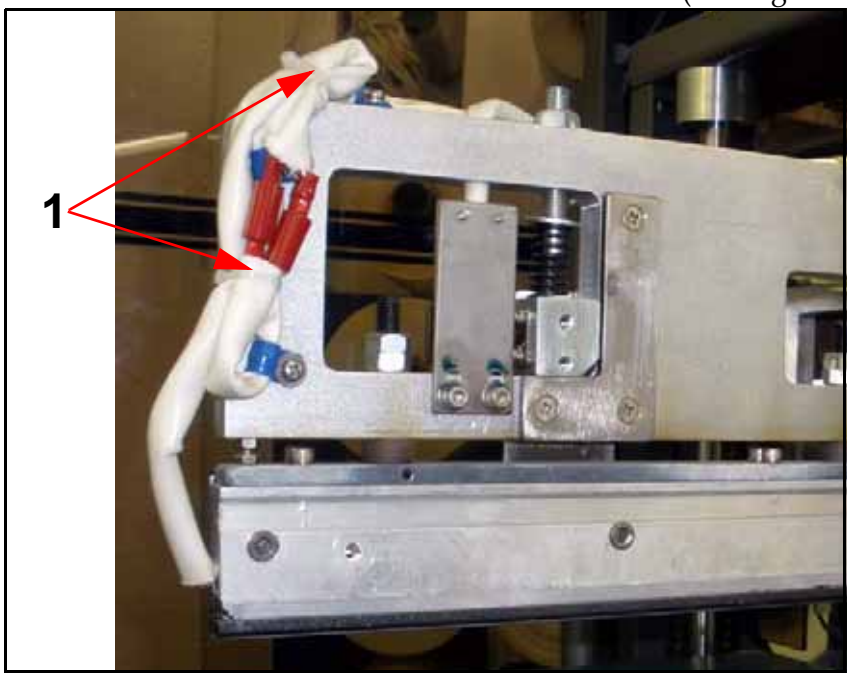


Figure 7-26. Cable Ties

7.13 Testing and Replacing Thermocouple

Tools & Materials Required:

- Digital Volt-Ohm Meter
- Medium Phillips Tip Screw Driver
- Set of SAE Hex Wrenches

Warning

Turn off machine's main disconnect switch before doing this procedure. Also, let seal bar cool to room temperature. You may get seriously injured or burned if you do not.

1. Turn off main disconnect switch.
2. Remove thermocouple terminal cover (1 in Figure 7-27).

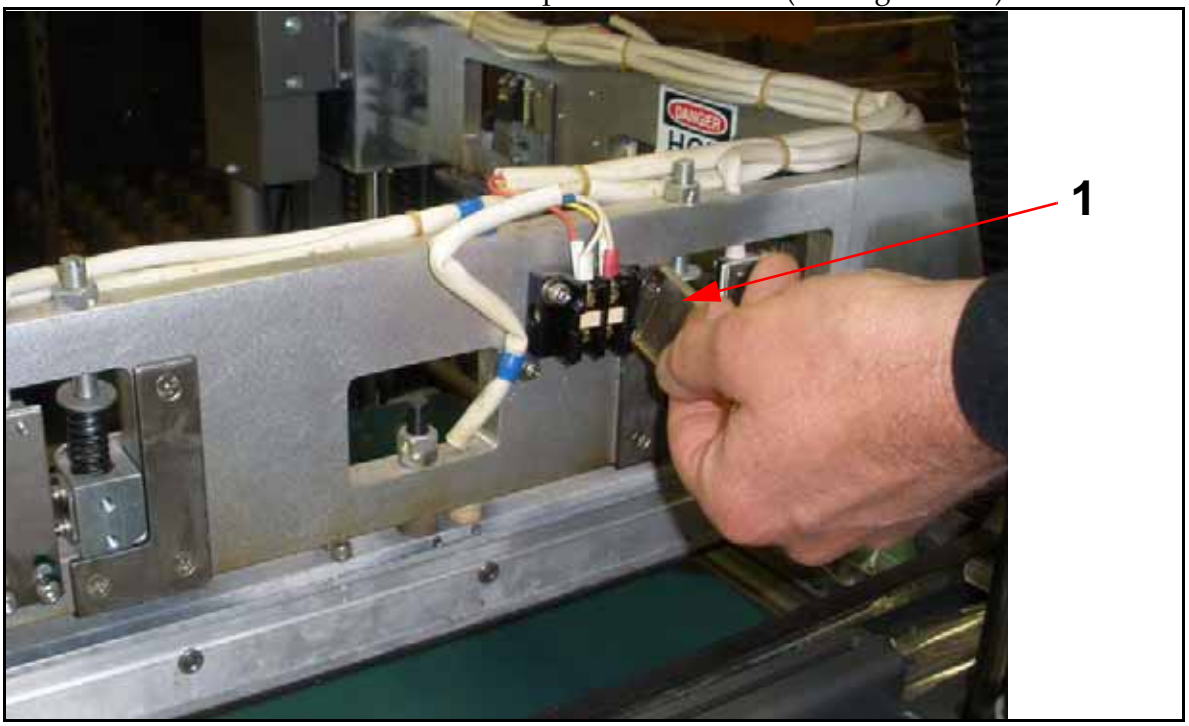


Figure 7-27. Thermocouple Terminal Cover

3 Loosen two screws (1 in Figure 7-28) and remove terminals.

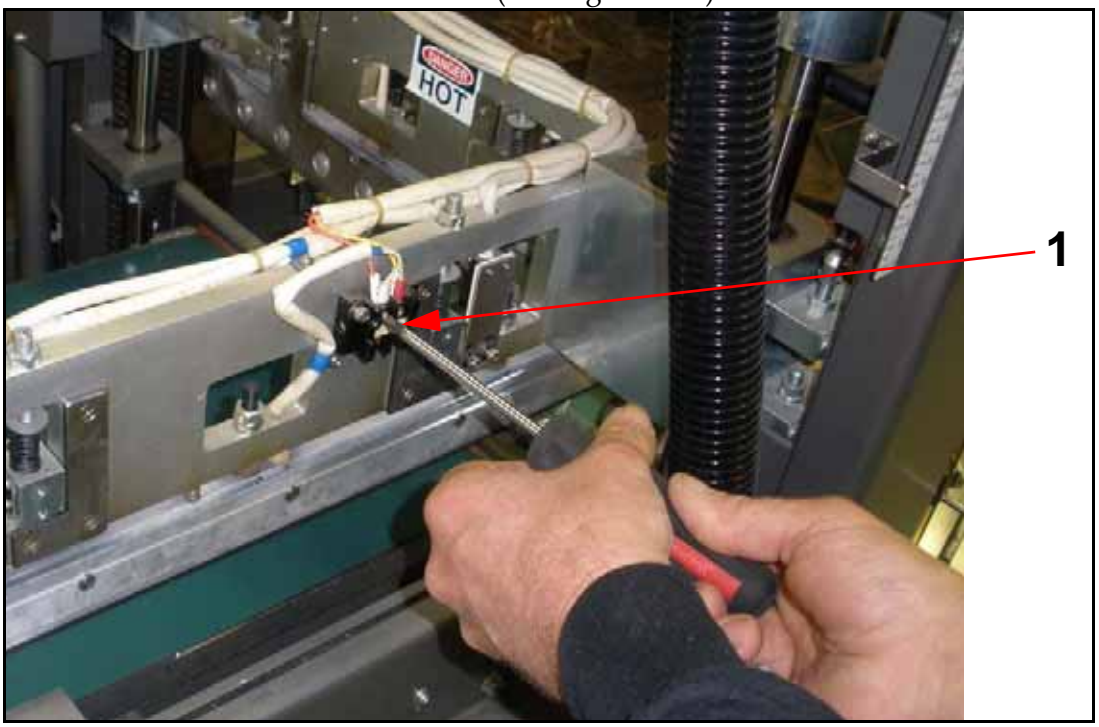


Figure 7-28. Thermocouple Terminals

4 Test for an open circuit across thermocouple terminals. If an open circuit is present, replace thermocouple according to the steps that follow. Otherwise, reassemble machine and continue troubleshooting.

5 Unscrew thermocouple cable clamp (1 in Figure 7-29).

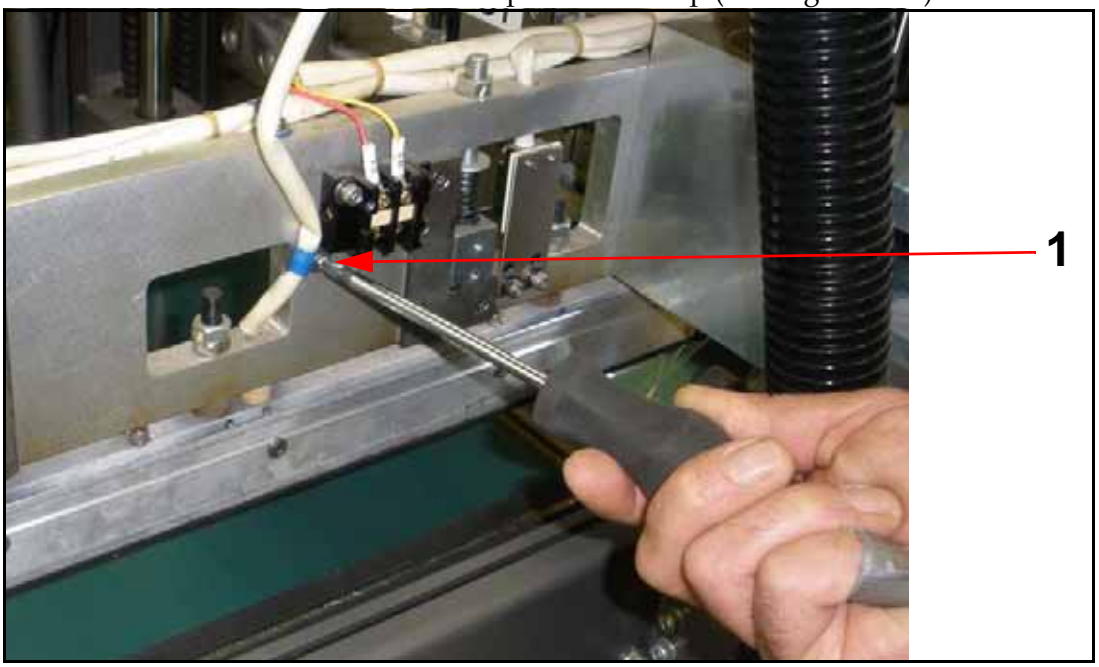


Figure 7-29. Thermocouple Cable Clamp

6 Loosen thermocouple set screw (1 in Figure 7-31).

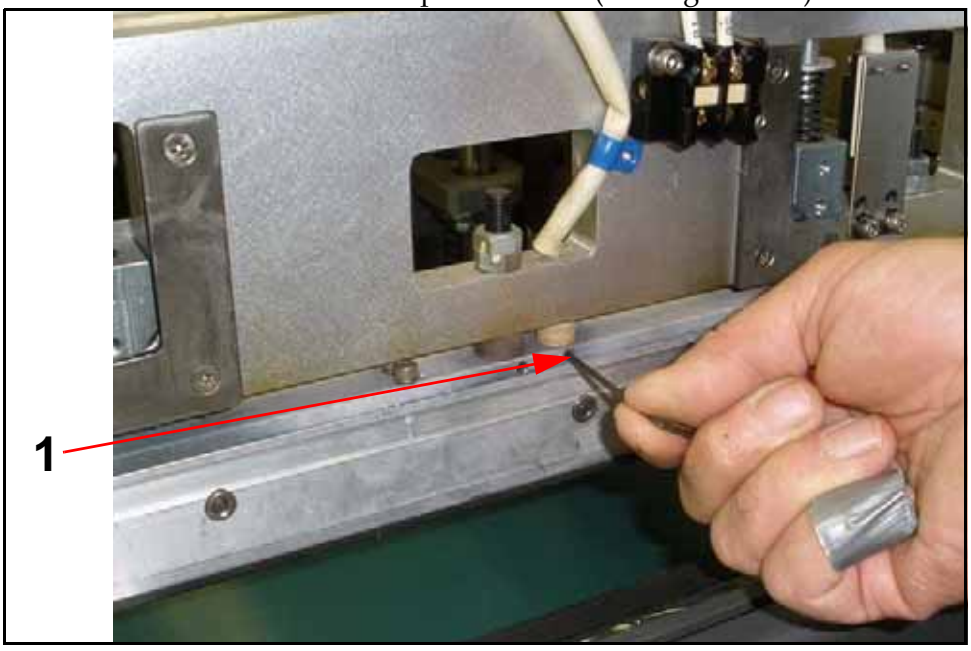


Figure 7-30. Thermocouple Set Screw

7 Pull thermocouple (1 in Figure 7-31) out.

8 Reverse steps to reassemble.

Note: When reconnecting thermocouple terminals, make sure white wire connects to terminal 81 and red wire to terminal 82.

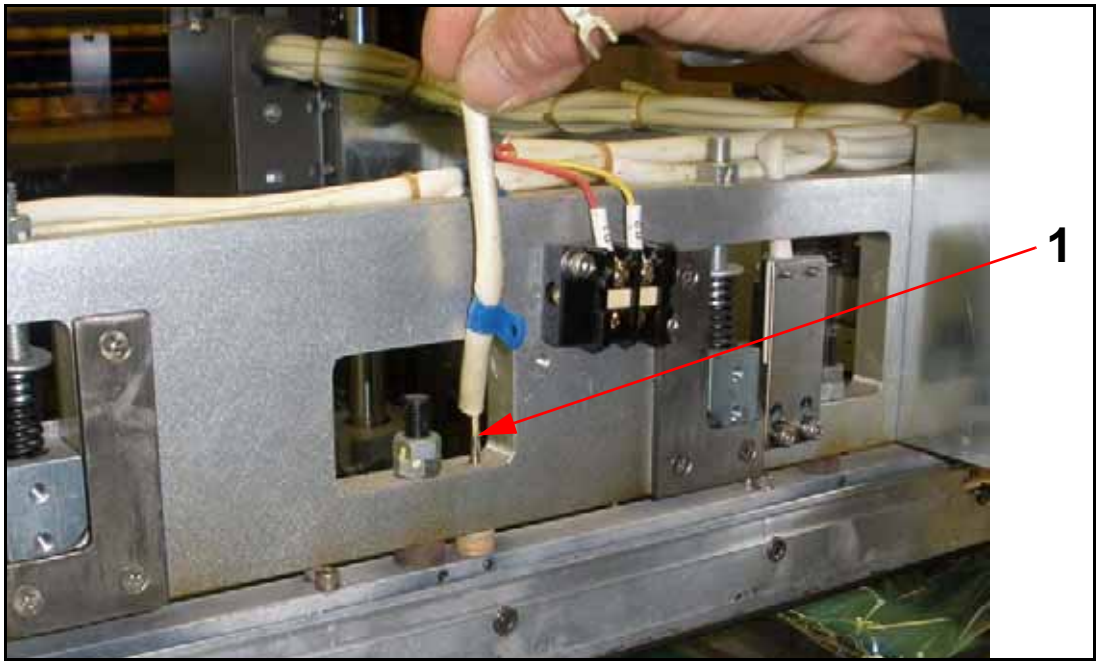


Figure 7-31. Thermocouple Removal

7.14 Testing and Replacing Heater Element

Tools & Materials Required:

- Digital Volt-Ohm Meter
- Medium Phillips Tip Screw Driver
- Rags
- Set of Metric Hex Wrenches
- Set of SAE Hex Wrenches
- ShinEtsu Lubricant Paste

- Steel Wool

Warning

Turn off machine's main disconnect switch before doing this procedure. Also, let seal bar cool to room temperature. You may get seriously injured or burned if you do not.

1. Turn off main disconnect switch.
2. Disconnect heater element terminals (1 in Figure 7-32).
3. Test for an open circuit across heater element terminals. If an open circuit is present, replace heater element according to the steps that follow. Otherwise, reassemble machine and continue troubleshooting.

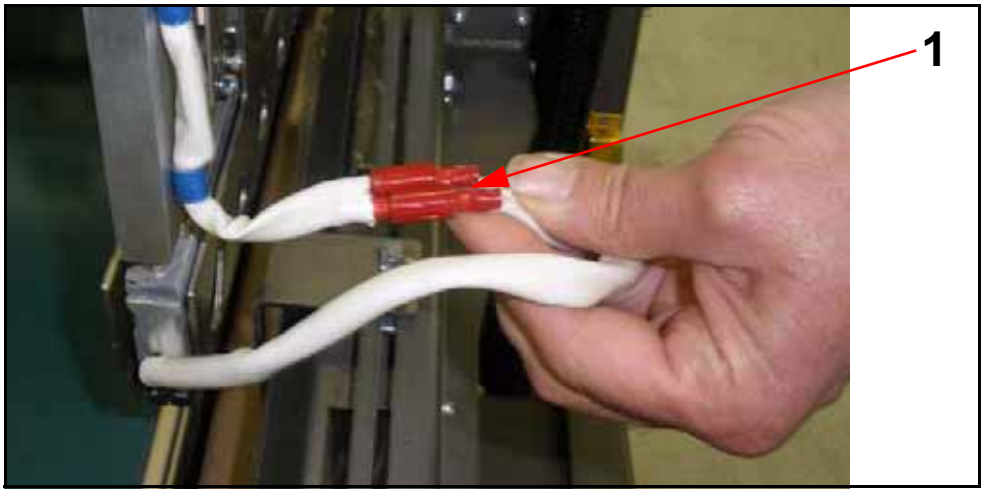


Figure 7-32. Heater Element Terminals

4 Remove seal bar according to Section “7.12.1 Removing Seal Bar” on page 7-21.

5 Unscrew eight top bar screws (1 in Figure 7-33) and remove top bar (2).

6 Unscrew five side bar screws (3).

7 Slide blade (4) and inserts (5) out of seal bar.

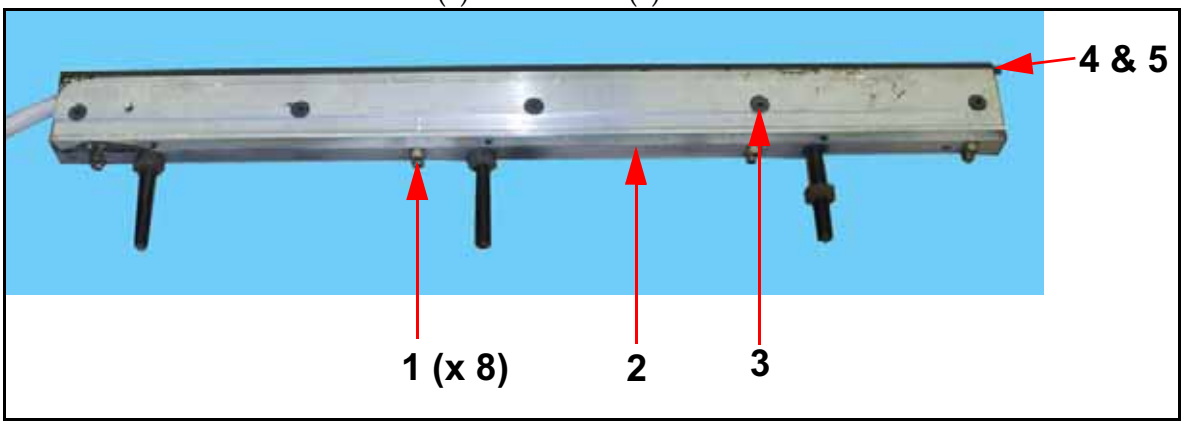


Figure 7-33. Seal Bar Disassembly

8 Split bars (1 in Figure 7-34)open and remove heater element (2).

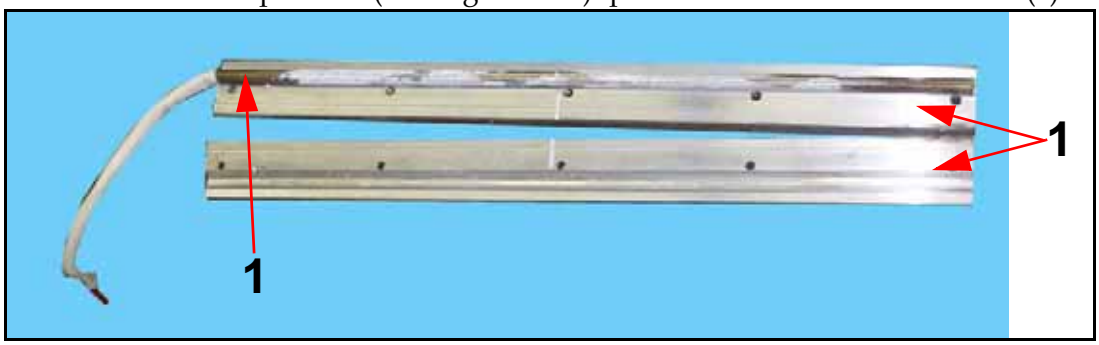


Figure 7-34. Heater Element Removal

9 Clean grooves (1 in Figure 7-35) in seal bar with rag and steel wool.

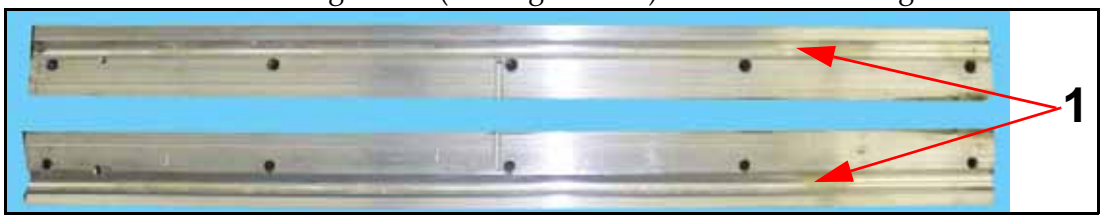


Figure 7-35. Seal Bar Cleaning

10 Thoroughly coat new heater element with Shinetsu paste.

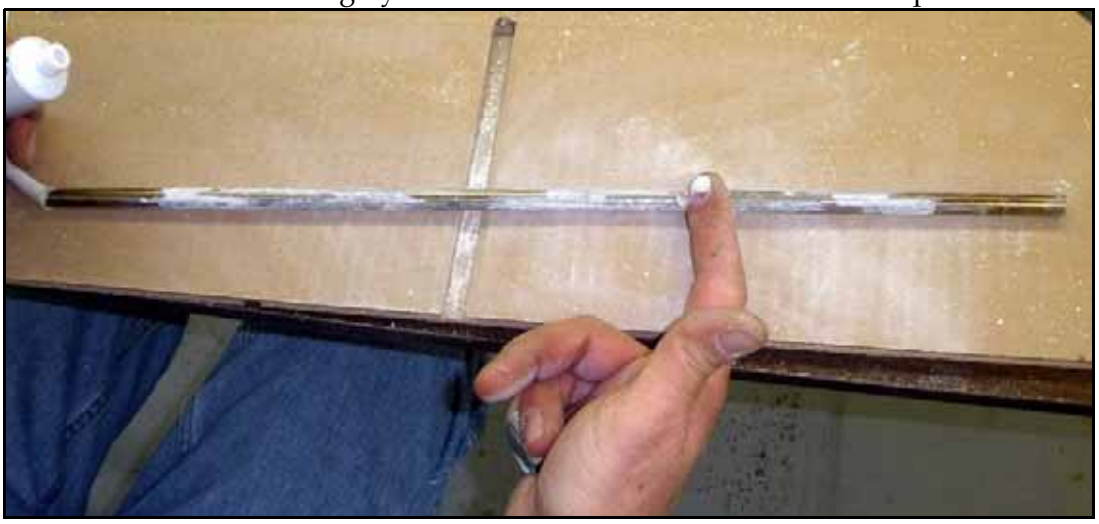


Figure 7-36. Coating New Element

11 Place the seal bars (1 in Figure 7-37) on table and orient them so that the heater element set screw holes (2) are to the left.

12 Place the heater element (3) in the bar so that the cable (4) is to the left and the blunt end (5) is flush or slightly less that flush with the end (6) of the bar.

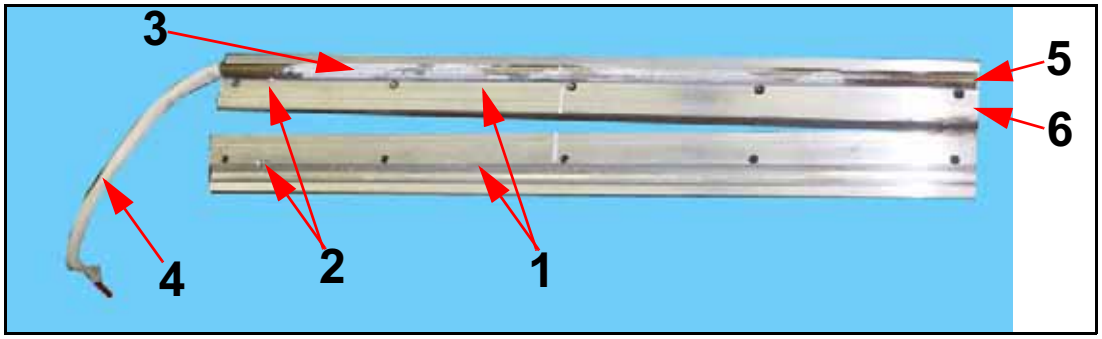


Figure 7-37. Heater Element Placement

13 Loosely assemble seal bar halves (1 in Figure 7-38) and upper bar (2) with eight top screws (3) and five side screws (4). Make sure upper bar is oriented so that thermocouple set screw hole (5) is towards the front while the heater element cable (6) is towards the left. **Do not Tighten any screws yet.**

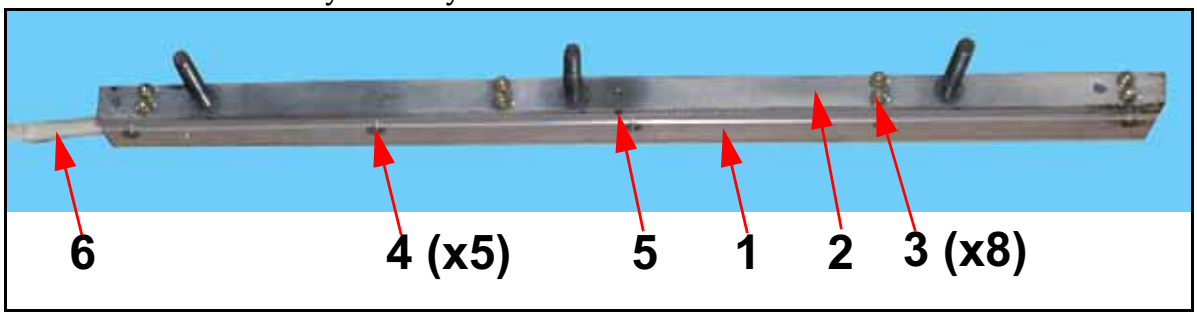


Figure 7-38. Seal Bar Assembly

14 Slide seal bar blade (1 in Figure 7-39) and inserts (2) into seal bar halves (3). The tab (4) on the blade should be oriented towards the blunt end (5) of the heater element. The tab should extend its full length past the end of the seal bar halves. **Do not Tighten any screws yet.**

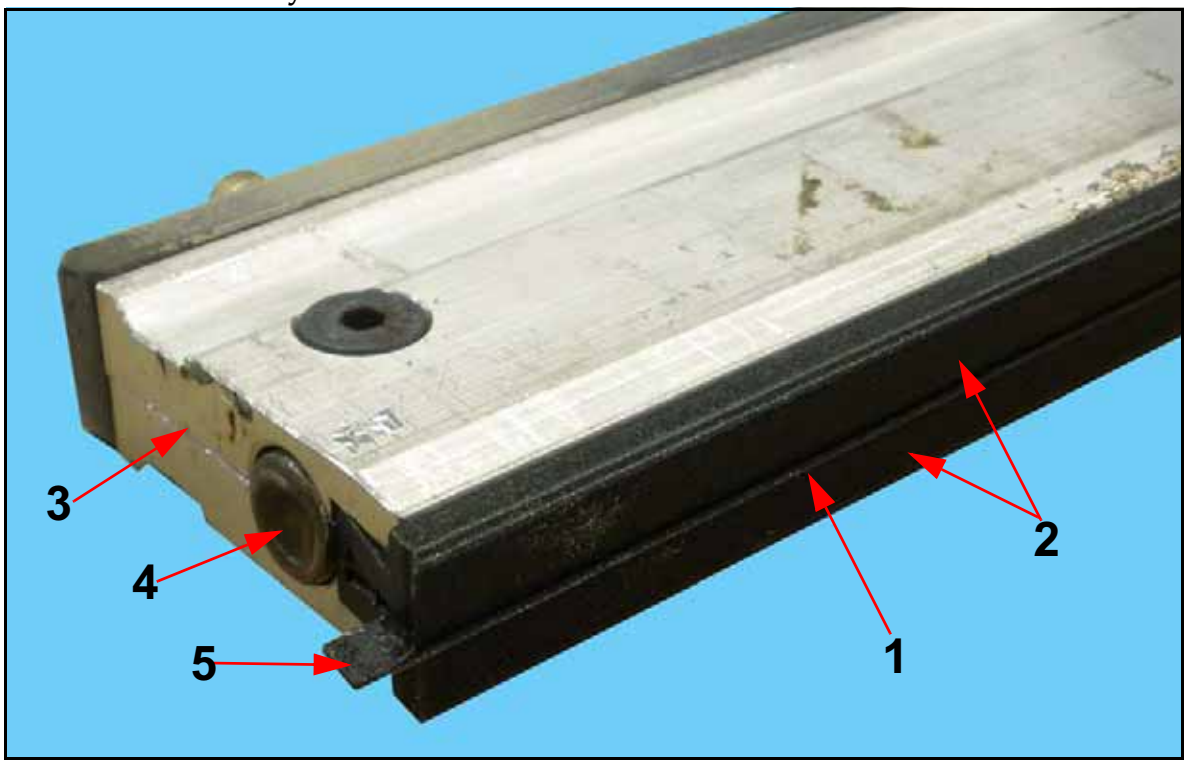


Figure 7-39. Blade and Insert Installation

15 Insert thermocouple into thermocouple hole (1 in Figure 7-40). Jiggle upper bar (2) until thermocouple is fully seated against heater element.

16 Tighten eight top screws (3) and five side screws (4).

17 Remove thermocouple from thermocouple hole.

Caution

Do not overtighten heater element set screw in the following step or the element may crack and be ruined.

18 Lightly tighten heater element set screw (5).

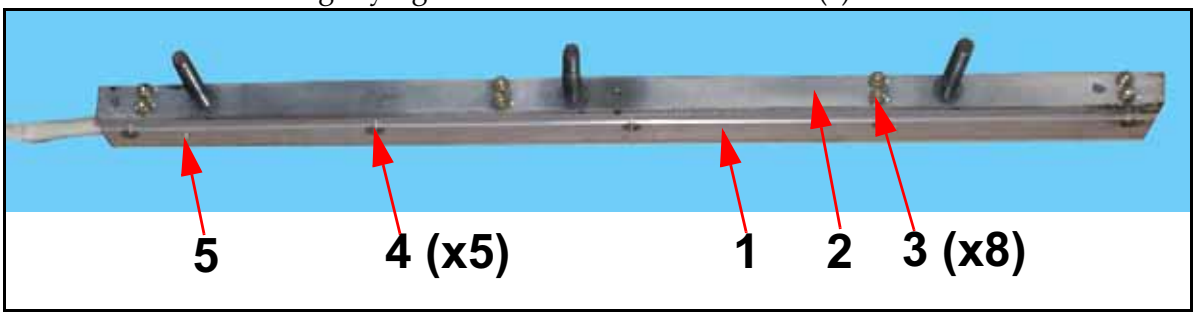


Figure 7-40. Tightening Seal Bar Screws.

19 Install spacers (1 in Figure 7-41) on bar.

20 Reinstall seal bar on machine according to Section "7.12.2 Installing Seal Bar" on page 7-27.

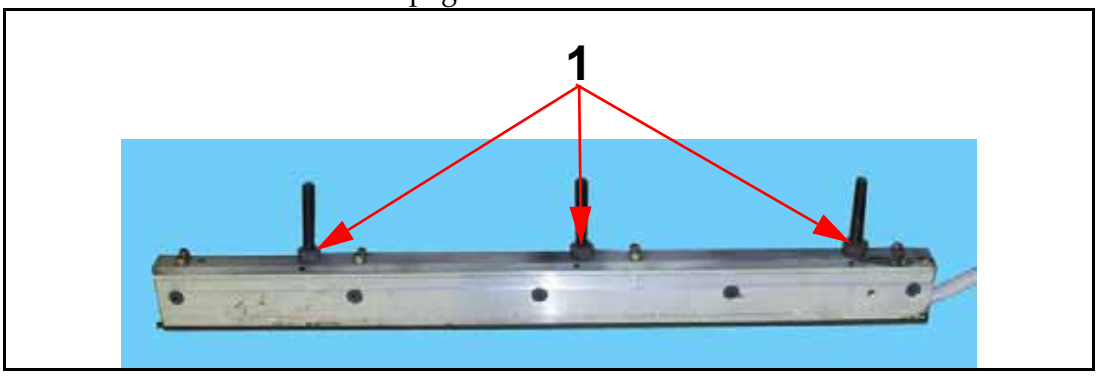


Figure 7-41. Seal Bar Spacers

7.15 Replacing PVC Style Seal Bar Blade

Tools & Materials Required:

- Set of Metric Hex Wrenches
- Set of SAE Hex Wrenches

Warning

Turn off machine's main disconnect switch before doing this procedure. Also, let seal bar cool to room temperature. You may get seriously injured or burned if you do not.

1. Turn off main disconnect switch.
2. Remove seal bar according to Section "7.12.1 Removing Seal Bar" on page 7-21.
3. Loosen eight top bar screws (1 in Figure 7-42).
4. Loosen five side bar screws (2).

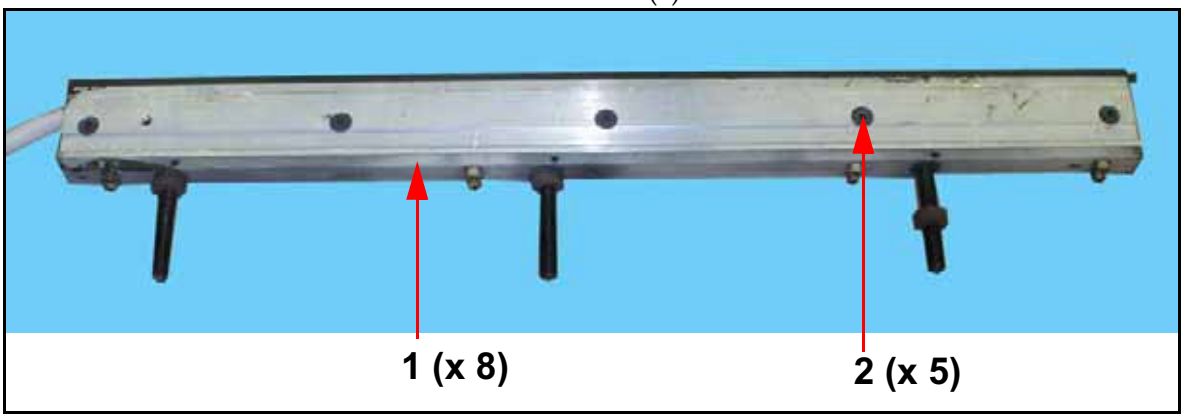


Figure 7-42. Seal Bar Screws

5 Slide blade (1 in Figure 7-43) and inserts (2) out of seal bar.

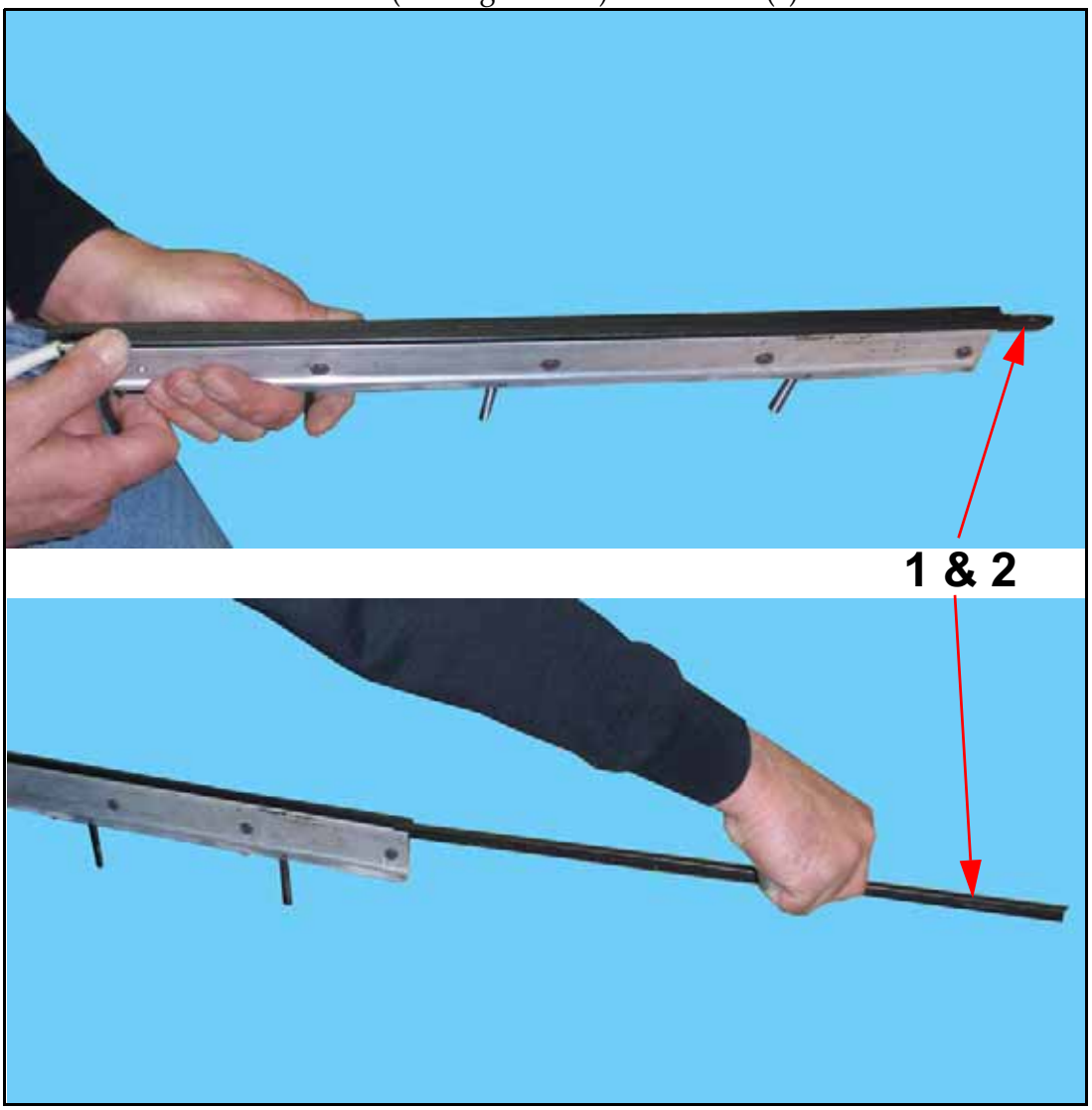


Figure 7-43. Blade and Insert Removal

6 Slide seal bar blade (1 in Figure 7-39) and inserts (2) into seal bar halves (3). The tab (4) on the blade should be oriented towards the blunt end (5) of the heater element. The tab should extend its full length past the end of the seal bar halves. **Do not Tighten any screws yet.**

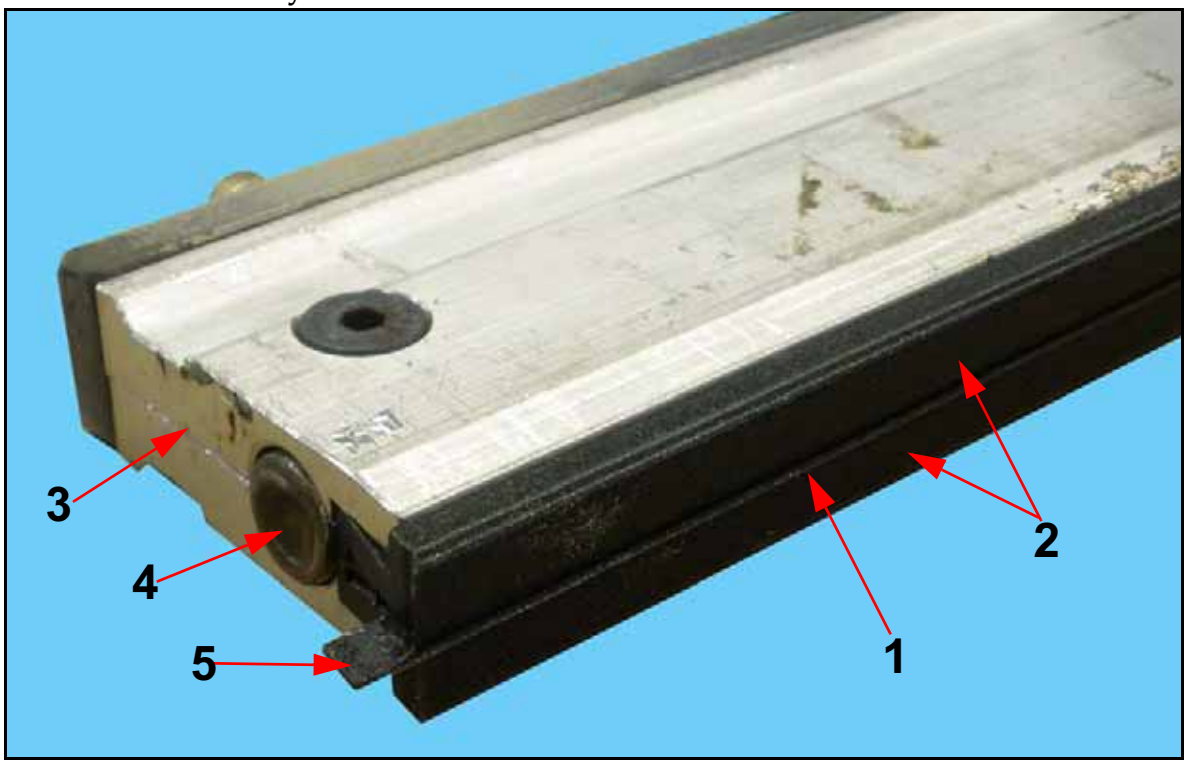


Figure 7-44. Blade and Insert Installation

7 Insert thermocouple into thermocouple hole (1 in Figure 7-45). Jiggle upper bar (2) until thermocouple is fully seated against heater element.

8 Tighten eight top screws (3) and five side screws (4).

9 Remove thermocouple from thermocouple hole.

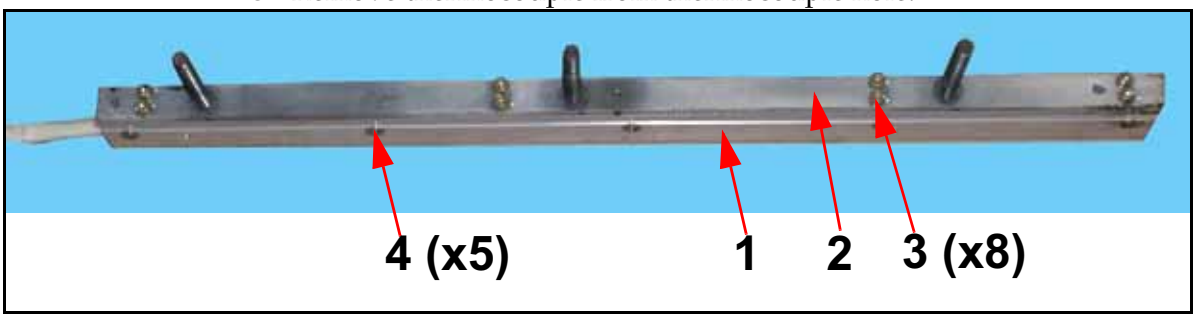


Figure 7-45. Tightening Seal Bar Screws.

10 Install spacers (1 in Figure 7-46) on bar.

11 Reinstall seal bar on machine according to Section "7.12.2 Installing Seal Bar" on page 7-27.

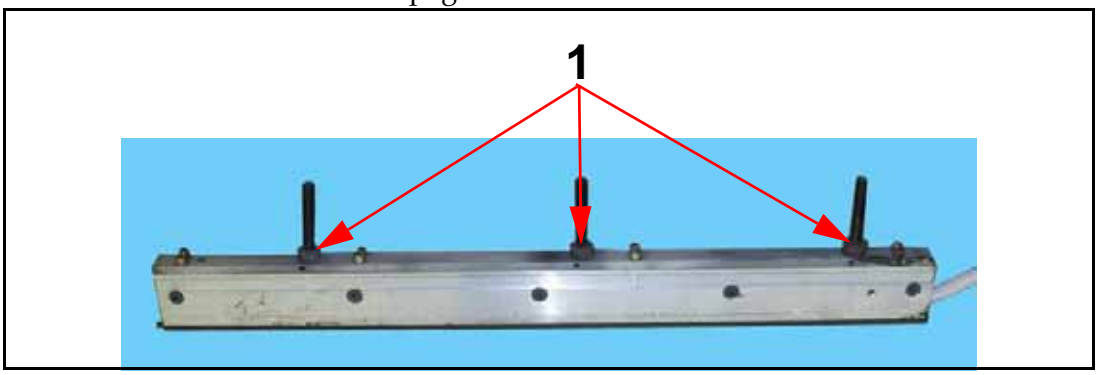


Figure 7-46. Seal Bar Spacers

7.16 Replacing Polyolefin Style Seal Bar Blade

Tools & Materials Required:

- Medium Flat-Tip Screwdriver
- Medium Phillips Tip Screwdriver

Warning

Turn off machine's main disconnect switch before doing this procedure. Also, let seal bar cool to room temperature. You may get seriously injured or burned if you do not.

1 Turn off main disconnect switch.

2 Unscrew and remove six screws (1 in).

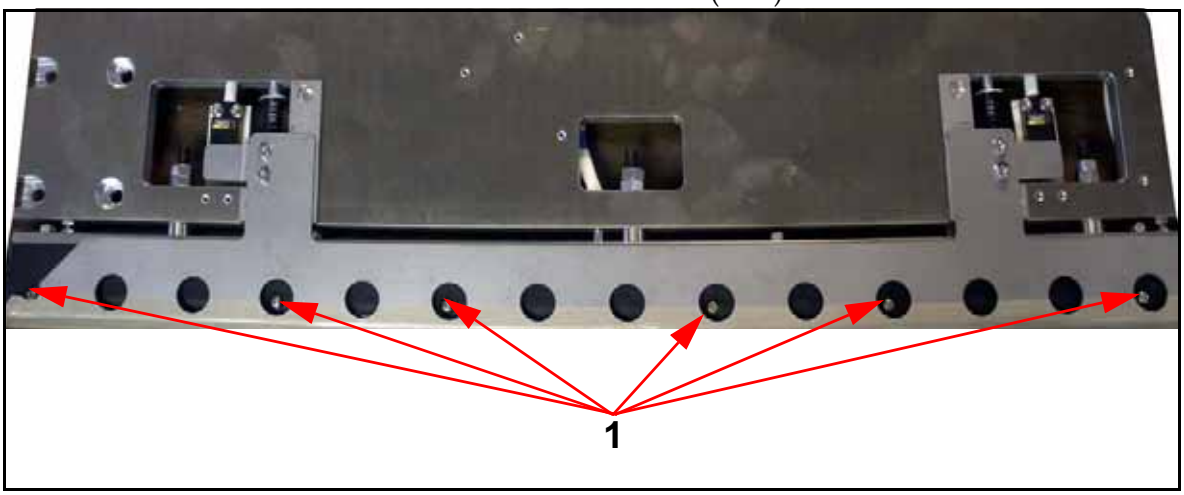


Figure 7-47. Seal Bar Screws

3 Push down on end of blade (1 in) with flat-tip screwdriver to push blade (2) out of seal bar.

4 Orient new blade so that pointed end (3) is opposite heater cable (4). Then insert blade in seal bar and secure in place with screws. Do not tighten screws yet.

5 Push side of blade (1) in as far as it will go.

6 Firmly tighten mounting screws.

Procedure Complete

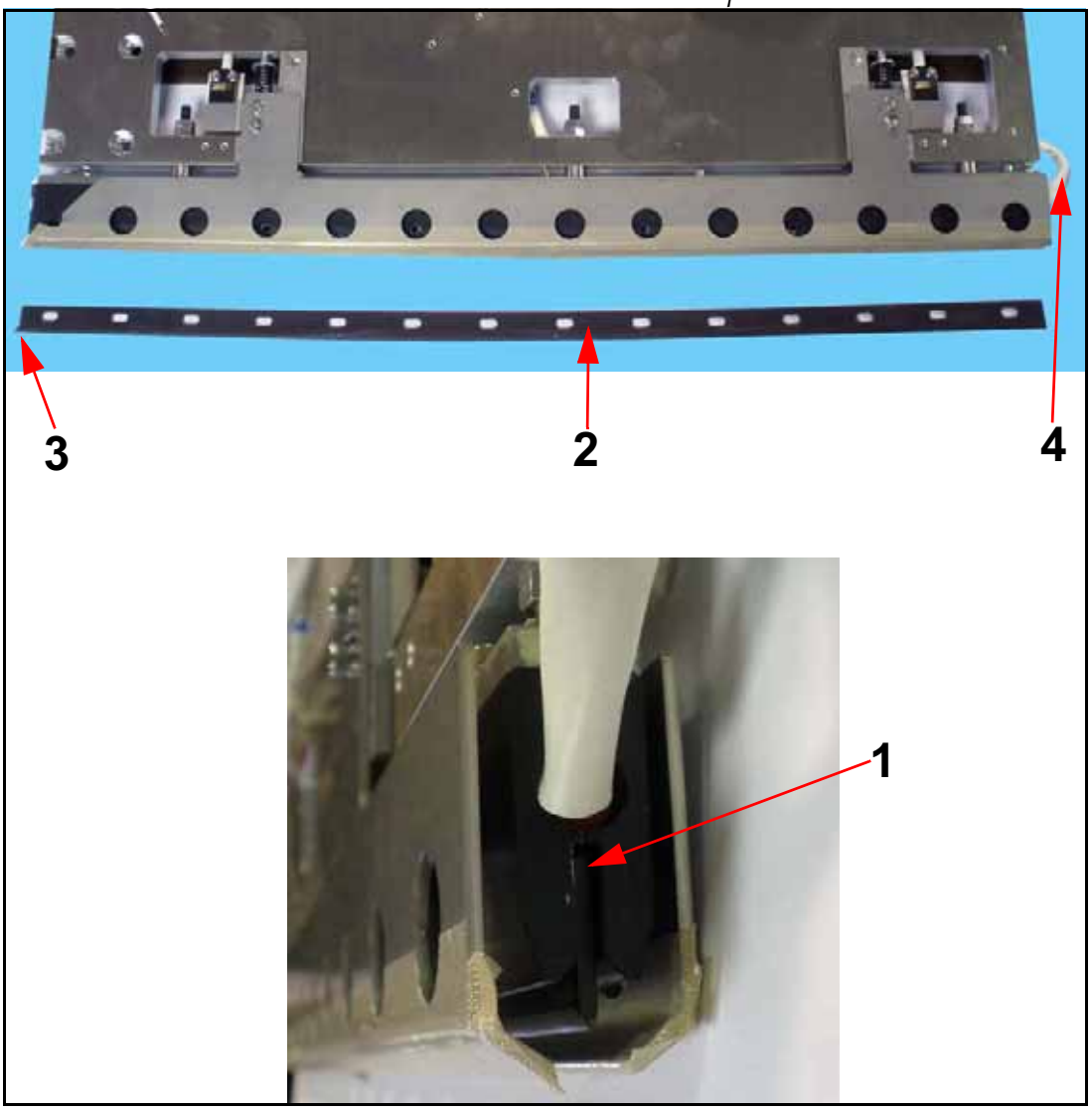


Figure 7-48. Blade and Insert Removal

Troubleshooting

8

8.1 Introduction

This chapter is divided into two sections.

The first section is an index of fault messages that appear on the machine's display. This index is cross referenced to a group of troubleshooting charts that will guide you through how to resolve fault message issues.

The second section is an index of generic machine problems not indicated by fault messages. This index is cross referenced to a second group of troubleshooting charts that will guide you through how to resolve the problem.

Warning

You must press the EMERGENCY STOP button before clearing a jam. You may get severely injured if you do not.

8.2 Fault Message Troubleshooting Index & Charts

Use the following troubleshooting index and troubleshooting charts as an aid in solving your problems associated with fault messages that appear on the machine's display.

Table 8-1: Fault Message Troubleshooting Index

The following chart shows fault conditions and remedies.

Fault Message	Possible Cause	Remedy
CROSS SEAL BAR TEMPERATURE TOO HIGH	Seal bar thermocouple is bad.	Test for an open circuit across thermocouple. Replace if open.
	Temperature converter is faulty.	Check operation of Enterlec temperature converter. Replase if necessary
CROSS SEAL BAR TEMPERATURE TOO LOW	Seal bar has not had enough time to warm up.	Wait 10-20 minutes for seal bars to warm up.
	Seal bar heater element is bad.	Test for short and open circuits on seal bar heater element. Replace as necessary.
	Seal bar thermocouple is bad.	Test for an open circuit across thermocouple. Replace if open.
	Temperature converter is faulty.	Check operation of Enterlec temperature converter. Replase if necessary
E-STOP ENGAGED OR POWER OFF	**E-STOP** button was pressed	Determine cause of emergency stop and correct. When ready, pull out **E-STOP** push-pull button. Press the **POWER ON** push button, the **CYCLE STOP/RESET** push button and then the **CYCLE START** push button.
FILM FEED IS TOO LONG "PRESS MANUAL SEAL"	The machine's film feed system has fed the maximum amount of film and requires that a manual seal be created before additional film can be fed.	Investigate the upstream source. Press the **CYCLE STOP/RESET** push button and then the **CYCLE START** push button.

Fault Message	Possible Cause	Remedy
MACHINE CYCLE STOPPED DUE TO INACTIVITY	Product not fed to the machine for a preset amount of time and machine has cycle stopped itself.	Investigate the upstream source. Press the **CYCLE STOP/RESET** push button and then the **CYCLE START** push button. If you wish to change the amount of time the machine has to sit idle before defaulting to the inactivity mode, change the T4:60 timer.
PERIODIC MAINTENANCE IS DUE	The machine has run for the predetermined number of hours and requires preventive maintenance to be performed.	See *Chapter 6, Periodic Maintenance* for details.
SCRAP BROKEN OR TAKE UP MALFUNCTION	Trim tail is broken.	Stop the machine. Press an emergency stop push-pull button. Rethread the Trimmed film onto the wind-up spool. Restart the machine using the quick start up procedure.
	Proximity switch is faulty.	Check operation and mounting of proximity switch 117PRX.
	Circuit breaker is blown.	Reset circuit breaker 5 CB. If breaker blows again, check operation of scrap rewind motor and drive controller.
SEAL BAR JAMMED	Seal bar is jammed by obstruction.	Check for and remove any obstructions. *Continued on next page...*

Fault Message	Possible Cause	Remedy
SEAL BAR JAMMED (Cont.)	Air pressure low or turned off.	Make sure that air is turned on and set correctly. Also make sure that air filter is clean.
	Faulty proximity switch.	Check proximity switches 110 PRX and 111 PRX for proper operation and mounting.
	Seal position setting too short.	Increase seal position setting.
SEAL BAR SAFETY TRIPPED	Indicates that seal bar safety trigger bar tripped by colliding with object,	Check for and remove any obstructions.
	Air pressure low or turned off.	Make sure that air is turned on and set correctly. Also make sure that air filter is clean.
	Faulty proximity switch.	Check proximity switches 113 APRX and 113 APRX for proper operation and mounting.
SIDE SEAL BAR TEMPERATURE TOO HIGH	Seal bar thermocouple is bad.	Test for an open circuit across thermocouple. Replace if open.
	Temperature converter is faulty.	Check operation of Enterlec temperature converter. Replase if necessary

Fault Message	Possible Cause	Remedy
SIDE SEAL BAR TEMPERATURE TOO LOW	Seal bar has not had enough time to warm up.	Wait 10-20 minutes for seal bars to warm up.
	Seal bar heater element is bad.	Test for short and open circuits on seal bar heater element. Replace as necessary.
	Seal bar thermocouple is bad.	Test for an open circuit across thermocouple. Replace if open.
	Temperature converter is faulty.	Check operation of Enterlec temperature converter. Replase if necessary
VARIABLE FREQUENCY DRIVE(S) NOT READY	Drive controller fault	Perform the long-term shutdown procedure. Wait approximately 1 to 3 minutes. Perform the initial startup procedure to restart the machine.
	Circuit breaker tripped	Check and reset circuit breakers 1- 5.
	Variable frequency drive fault.	Refer to drive's manual on the CD in Chapter 12 for further troubleshooting instructions.
WEB BROKEN OR FILM FEED MALFUNCTION	Film web has jammed, broken, or is sticking to dancer bars.	Rethread film. Make sure that dancer bars are clean.
	Proximity switch is faulty.	Check operation and mounting of proximity switch 115PRX.
	Circuit breaker is blown.	Reset circuit breaker 4CB.
		If breaker blows again, check operation of scrap rewind motor and drive controller.

Fault Message	Possible Cause	Remedy
WRAPPER DOOR OPEN	Wrapper door is open.	Close the wrapper door.
	Door switch is faulty	If door is closed, check operation and mounting of door switch.

8.2 General Troubleshooting Index & Charts

Use the following general troubleshooting index and troubleshooting charts as an aid in solving your problems associated with your machine. These problems do not trigger a message on the operator interface.

Table 8-2: General Message Troubleshooting Index

Fault Message	Possible Cause	Remedy
FILM BUILDS UP ON SEAL BARS **(Film residue forms on the hot and/or cold seal bars, causing poor seals)**	Dirty seal bars	Clean the seal bars.
	Temperature too high	Adjust temperature on temperature control.
	Defective cold bar	Inspect Teflon tape on cold bar and replace if necessary.
IMPROPER FILM FEED **(Too much film or not enough film is being fed to the machine)**	Film accumulated in the dancer bar area	Adjust or replace the dancer bar switch.
	Incorrect film tension	Adjust the counterweight on the dancer bar arm. Adjust the dancer bar switch activator.
	Dancer bar roller not turning	Inspect dancer bar roller. Clean or replace as necessary.

Continued on the next page...

Fault Message	Possible Cause	Remedy
IMPROPER FILM FEED (Cont.)	Dirty dancer bar roller	Clean the roller.
	Bad electrical connections between film feed motor and the potentiometer	Check the connections using the electrical schematics.
	Film roll is not turning	Remove any obstructions that are interfering with the film roll.
		Check the key and set screw between the film drive roll and the film shaft drive.
WEAK SEAL LINE **(The seal on the front or back of the product pulls apart easily).**	Dirty seal bars	Clean seal bars.
	Defective cold bar	Inspect Teflon tape on cold bar and replace if necessary.
		Inspect the seal pad. Seal pads that are too hard or too soft require replacement.
	Incorrect seal bar pressure	Check seal bar pressure, and adjust if necessary. A good starting point for adjustment is 50 psi.
	Defective thermocouple	Replace thermocouple.
	Defective temperature controller	Refer to controller specifications.
	Seal bar temperature too low	Check for blown fuse/ circuit breaker.
		Adjust temperature on touch screen operator interface.
	Seal bar temperature too high	Adjust temperature on touch screen operator interface.
		Continued on next page...

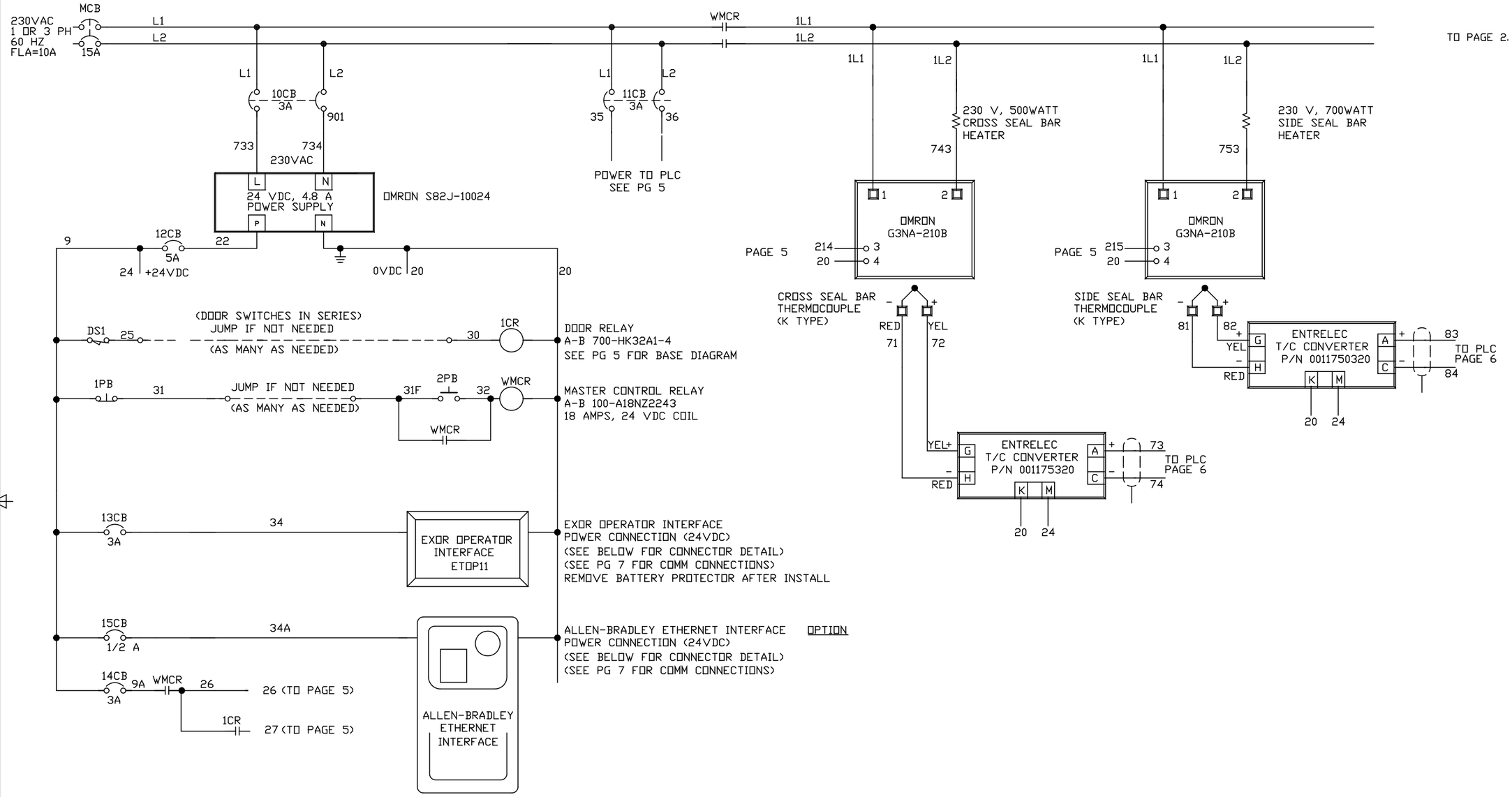
Fault Message	Possible Cause	Remedy
WEAK SEAL LINE (cont.)	Seal dwell timer incorrect	Change seal dwell time using the touch screen operator interface.
	Incorrect air pressure	Check for air leakage. Check airflow adjustment (solenoid/cylinder). Check pressure in air supply line.
	Improper film threading	Check that film is threaded properly. Rethread film if necessary. (Refer to *Film Threading Diagram* in *Chapter 5*).

Diagrams & Electrical Schematics

9

9.1 Electrical Schematics

This chapter contains the electrical schematics for the L-Series Automatic L-Bar Sealer.



NOTES:

1. PLACE JUMPER BETWEEN 25C AND 30 FOR DOOR SWITCHES FOR ADDITIONAL DOOR SWITCHES PLACE IN SEERIES WITH 25C WITH WIRE NUMBERS 25D, 25E ETC AS MANY AS REQUIRED.
2. PLACE JUMPER BETWEEN 31 AND 31F FOR EMERGENCY STOP CIRCUIT. REMOVE JUMPER TO ADD ADDITIONAL E-STOPS IN SERIES. USING WIRE NUMBERS 31A, 31B, ETC.
3. REMOVE ALL DOOR AND E-STOP JUMPERS AND VERIFY OPERATION BEFORE PLACING IN SERVICE
4. USE BELDEN # 8761 OR EQUIVALENT 18GA FOIL SHIELDED WIRE
5. USE SHIELDED CABLE FOR ALL ANALOG SIGNAL WIRES. SHIELD MUST BE GROUNDED AT ONE END ONLY

MAX. TIGHTENING TORQUE FOR TERMINAL BLOCKS 1492-HM1: 7 LB-IN.
MAX. TIGHTENING TORQUE FOR TERMINAL BLOCKS 1492-CA1: 16 LB-IN.

COMPATIBLE REVISIONS

Description	Revisions
Bill of Material	123456.279A
Plc Program	1.0 and 2.0
Interface Program	1.0

RevNo	Revision note	Date	Signature	Checked

Itemref	Quantity	Title/Name, designation, material, dimension etc			Article No./Reference
Designed by KJD		Checked by KJD	Approved by - date KJD	Filename	Date 05-10-02 / Scale NONE

ARPAC

AUTOMATIC "L" BAR SEALER STANDARD

Drawing Number L18/26-099-01-R1 | REVISION 1 | Sheet 1 OF 7

FROM PG.1

1L1
1L2

TO PAGE 3.

1CB
5A

2CB
5A

3CB
5A

910 911

920 921

930 931

U V W G G

MITSUBISHI
FREQROL-E500
FR-E520S-0.1K

A	123	DRIVE READY
C	24	24 VDC
10		
2	91	ANALOG +
5	90	ANALOG COM
STF	20	
STR		
PC	205	(DRIVE ENABLE)

PG. 6.

ADJUSTABLE
FREQUENCY MOTOR
CONTROLLER

A	123	DRIVE READY
C	24	24 VDC
10		
2	91	ANALOG +
5	90	ANALOG COM
STF	20	
STR		
PC	206	(DRIVE ENABLE)

PG. 6.

A	123	DRIVE READY
C	24	24 VDC
10		
2	91	ANALOG +
5	90	ANALOG COM
STF	20	
STR		
PC	207	(DRIVE ENABLE)

U V W

913 914 915

923 924 925

933 934 935

RED WHT BLU

1M

2M

3M

INFEED CONVEYOR
MOTOR, 230 VAC, 90W 0.64A

DISCHARGE CONVEYOR
MOTOR 230 VAC, 90W 0.64A

FILM FEED MOTOR
220 VAC, 40 W, 0.3 AMP

RevNo	Revision note	Date	Signature	Checked

Itemref	Quantity	Title/Name, designation, material, dimension etc			Article No./Reference	
Designed by KJD		Checked by KJD	Approved by - date KJD	Filename	Date 05-10-02	Scale NONE

ARPAC

AUTOMATIC "L" BAR SEALER STANDARD

Drawing Number	REVISION	Sheet
L18/26-099-02-R1	1	2 OF 7

MIRROR

FROM PAGE 2.

1L1
1L2

4CB
5A

940
941

R S T G G

MITSUBISHI
FREQROL-E500
FR-E520S-0.1K

A
C
10
2
5
STF
STR
PC

123 DRIVE READY
24 24 VDC
91 ANALOG + PG. 6.
90 ANALOG COM
20
PG. 5.
208 (DRIVE ENABLE)

ADJUSTABLE
FREQUENCY MOTOR
CONTROLLER

U V W

943 944 945

RED WHT BLU

4M

PINCH ROLLER
MOTOR
220 VAC, 0.64 AMP

5CB
5A

950
951

R S T G G

THM

ACC/DEC

1 2

FREQ
/HZ

MITSUBISHI
SC-A2100U

Y1
SE
10
2
6
STF
STR
PC

96
97
98
P2
MOUNTED IN CABINET
204CR
(DRIVE ENABLE)
PG. 5.
204B

ADJUSTABLE
FREQUENCY MOTOR
CONTROLLER

U V W

953 954 955

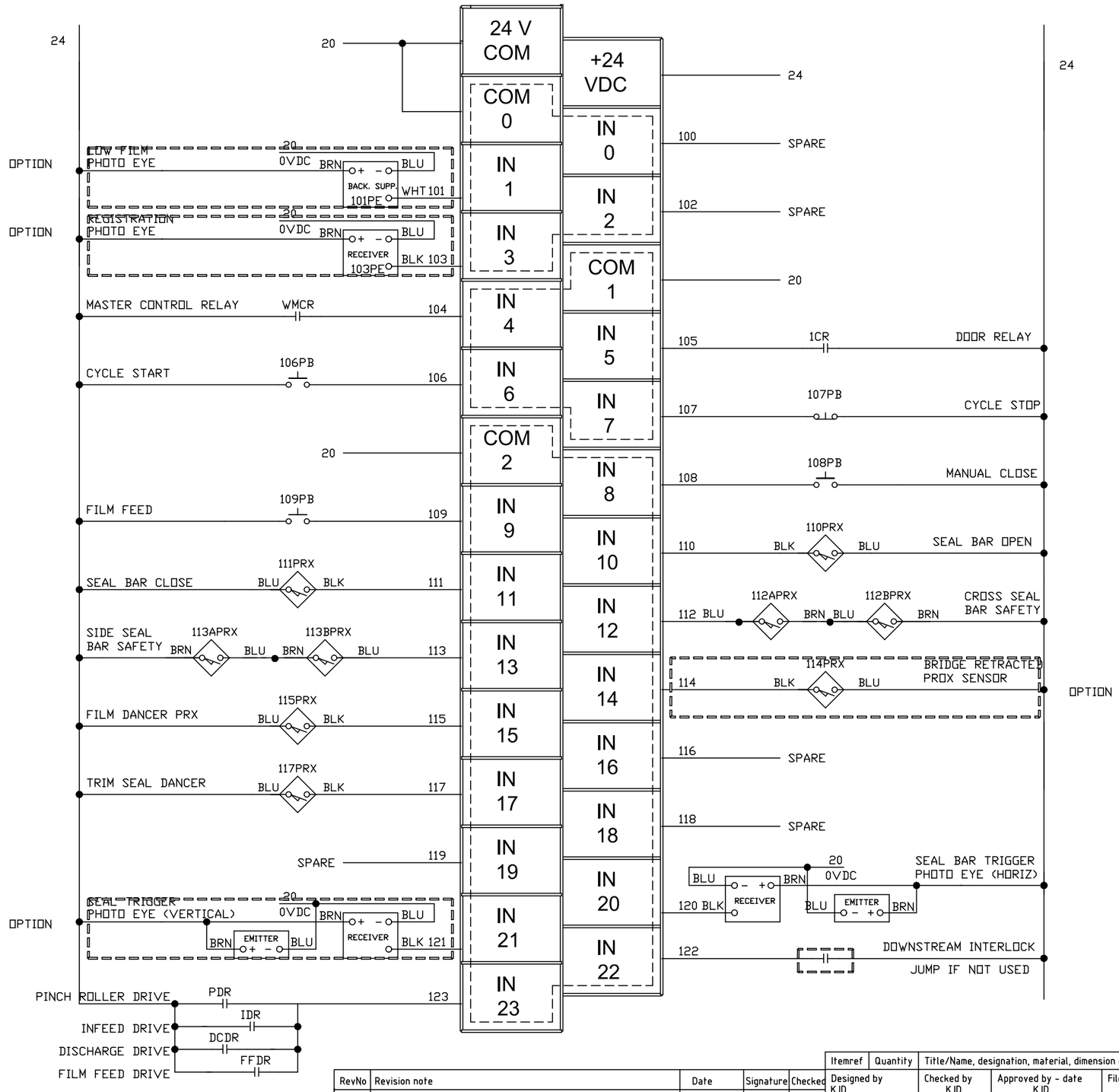
RED WHT BLU

5M

SCRAP WIND
MOTOR
220 VAC/ 0.22 AMP

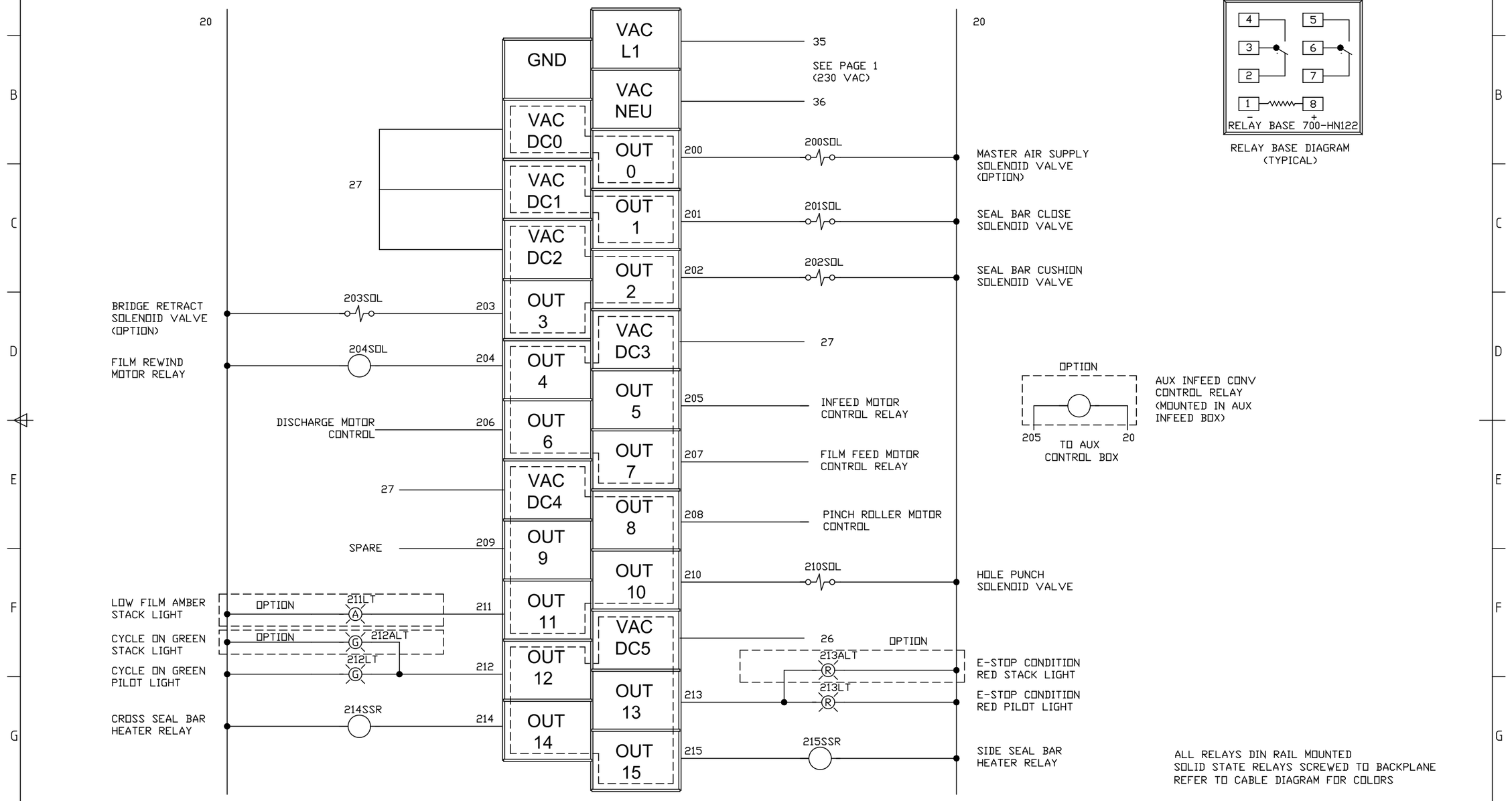
RevNo	Revision note	Date	Signature	Checked

Itemref	Quantity	Title/Name, designation, material, dimension etc				Article No./Reference	
Designed by KJD		Checked by KJD	Approved by - date KJD		Filename	Date 05-10-02	Scale NONE
ARPAC		AUTOMATIC "L" BAR SEALER STANDARD					
		Drawing Number L18/26-099-03-R1			REVISION 1	Sheet 3 OF 7	



RevNo	Revision note	Date	Signature	Checked

Itemref	Quantity	Title/Name, designation, material, dimension etc				Article No./Reference	
Designed by KJD		Checked by KJD	Approved by - date KJD		Filename	Date 05-10-02	Scale NONE
ARPAC		AUTOMATIC "L" BAR SEALER STANDARD					
		Drawing Number L18/26-099-04-R1			REVISION B	Sheet 4 OF 7	



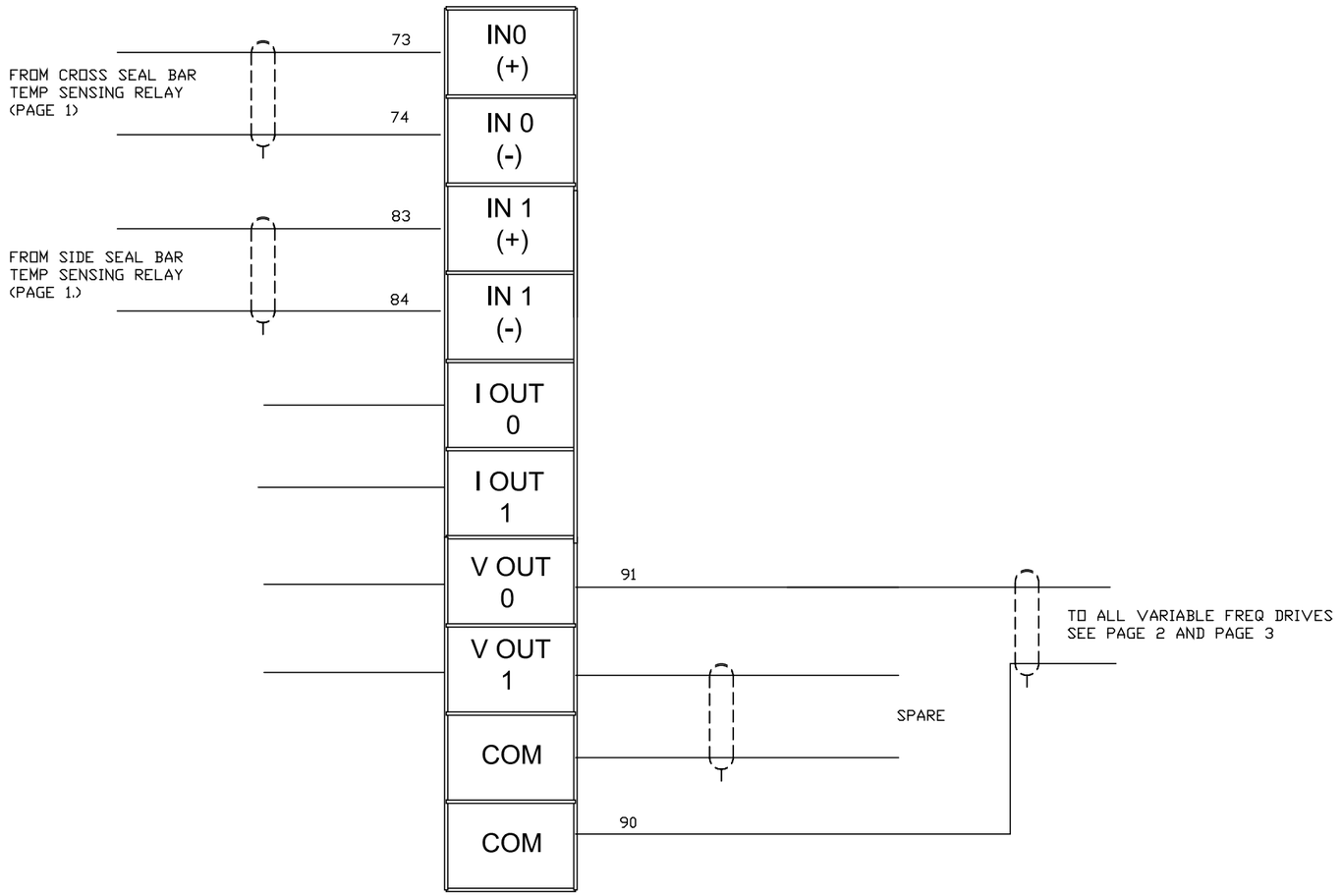
RevNo	Revision note	Date	Signature	Checked

Itemref	Quantity	Title/Name, designation, material, dimension etc			Article No./Reference	
Designed by KJD		Checked by KJD	Approved by - date KJD	Filename	Date 05-10-02	Scale NONE

ARPAC

AUTOMATIC "L" BAR SEALER STANDARD

Drawing Number L18/26-099-05-R1 | REVISION 1 | Sheet 5 OF 7

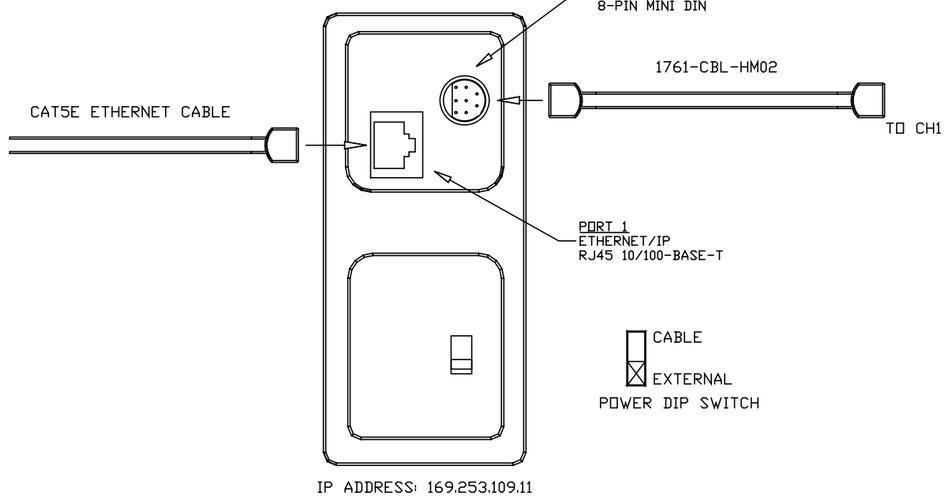


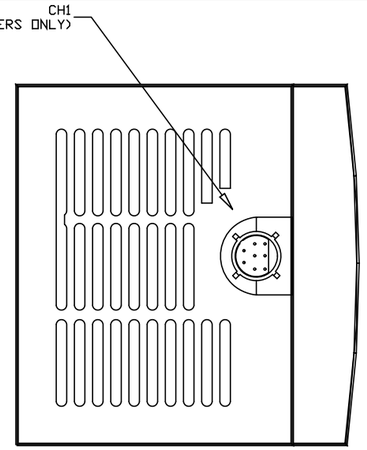
USE BELDEN CABLE
CONNECT SHILED AT DRIVE END ONLY

RevNo	Revision note	Date	Signature	Checked

Itemref	Quantity	Title/Name, designation, material, dimension etc				Article No./Reference	
Designed by KJD		Checked by KJD	Approved by - date KJD		Filename	Date 05-10-02	Scale NONE
ARPAC		AUTOMATIC "L" BAR SEALER STANDARD					
		Drawing Number L18/26-099-06-R1				REVISION 1	Sheet 6 OF 7

ETHERNET OPTION

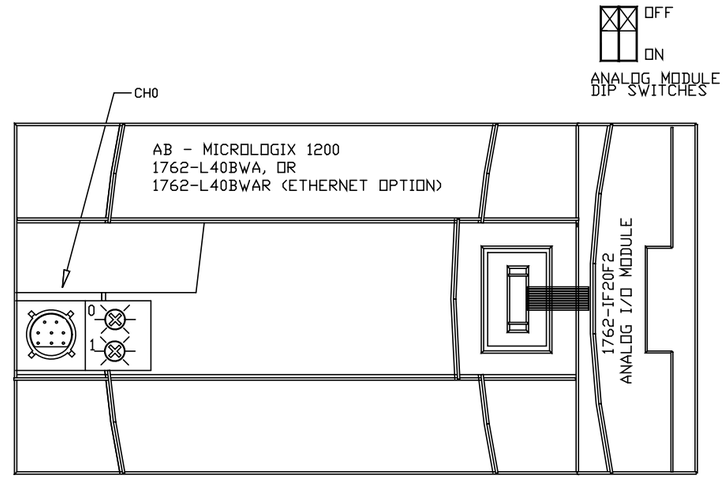




CH1 COMMUNICATION PARAMETERS *

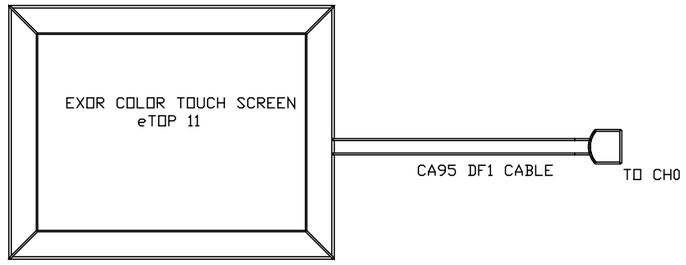
PROTOCOL	DF1 FULL DUPLEX
BAUD RATE	19200
PARITY	NONE
STOP BITS	1
SOURCE ID (NODE)	1
CONTROL LINE	NO HANDSHAKING
CHECKSUM	CRC

* PROGRAMMING/HMI PORT IS ONLY PRESENT ON 1762-L~~~~~R CONTROLLERS. ALL PARAMETERS ARE DEFAULT AND CANNOT BE CHANGED.



CH0 COMMUNICATION PARAMETERS

PROTOCOL	DF1 FULL DUPLEX
BAUD RATE	19200
PARITY	NONE
STOP BITS	1
DATA BITS	8
SOURCE ID (NODE)	1
CONTROL LINE	NO HANDSHAKING
CHECKSUM	CRC



WIRE COLORS
DC - BLUE
AC 110V RED
AC- NEUTRAL WHITE
220 VOLT AC - BLACK
EARTH - YELLOW/GREEN
DOWNSTREAM INTERLOCK - YELLOW

RevNo	Revision note	Date	Signature	Checked

Itemref	Quantity	Title/Name, designation, material, dimension etc	Article No./Reference
Designed by KJD	Checked by KJD	Approved by - date KJD	Filename	Date 05-10-02	Scale NONE

ARPAC

AUTOMATIC "L" BAR SEALER STANDARD

Drawing Number L18/26-099-07-R1 | REVISION 1 | Sheet 7 OF 7

Service Information

10

10.1 Introduction

This section contains an overview of ARPAC®'s field service policies.

10.2 Field Service Policy

10.2.1 Objective

To furnish our customer with prompt, competent, and complete service so they can operate at optimum efficiency.

10.2.2 Service Personnel

ARPAC®'s field technicians are experienced in the servicing of ARPAC® equipment, are qualified to instruct customer's personnel in correct operation and maintenance procedures of ARPAC® equipment. ARPAC® Field Service Technicians are fully supported by factory and all Engineering Departments.

10.2.3 Training

The ARPAC® Group is pleased to provide free lifetime access to ARPAC® University's regularly scheduled technical training courses for customers purchasing a packaging machine from ARPAC® or its distributors.

These technical training courses will focus on theory of operation, machine setup and operation, preventive maintenance and long-term care. Many specific machine courses are available on ARPAC® bundler, horizontal, corrugated, and stretch wrapping machines. These regularly scheduled 1 day or 2 day courses are held approximately every 12 weeks at the ARPAC® University and Demo Room located near O'Hare airport in Chicago. Class demand will influence the frequency of these class offerings.

For further information or a current technical training calendar and agenda, contact ARPAC®'s training department at 847-678-9034 ext. 4088.

Custom machine specific training courses can be developed for delivery at your location or at ARPAC®. For further information and a quotation, contact ARPAC®'s training department.

10.2.4 ARPAC Commitment

- Be readily available to communicate with the customer(s).
- Service Technicians available for supervision and instruction of personnel at prevailing rates and expenses.
- Upon arrival of the ARPAC® Service Technician, he should be able to commence immediately, minimize "downtime" of your production facilities and commence training of your personnel.

10.2.5 Scheduling Service

At least 10-days advance notice is required for scheduling personnel. Emergencies will be handled as quickly as possible. If assistance is required during installation or operation of the system or if you need information pertaining to system-related problems not covered by this manual, please contact ARPAC® Service Dept. (telephone (800) 237-0725).

10.3 Installation Policy

10.3.1 Objective

To furnish our customer with prompt, competent, and complete service so they can operate at optimum efficiency. Failure to use factory trained personnel for initial machine start-up may void the warranty.

10.3.2 Service Personnel

ARPAC®'s field technicians are experienced in the servicing of ARPAC® equipment, and are qualified to instruct customer's personnel in the correct operation and maintenance procedures of ARPAC® equipment. ARPAC® Field Service Technicians are fully supported by factory and all Engineering Departments.

10.3.3 Training

ARPAC® personnel are available for ARPAC® equipment training, either on site hands-on, or in a classroom environment supported by visual aids and literature to be administered under separate purchase order.

The ARPAC® Group is also pleased to provide free lifetime access to ARPAC® University's regularly scheduled technical training courses for customers purchasing a packaging machine from ARPAC® or its distributors.

These technical training courses will focus on theory of operation, machine setup and operation, preventive maintenance and long-term care. Many specific machine courses are available on ARPAC® bundler, horizontal, corrugated, and stretch wrapping machines.

These regularly scheduled 1 day or 2 day courses are held approximately every 12 weeks at the ARPAC® University and Demo Room located near O'Hare airport in Chicago. Class demand will influence the frequency of these class offerings.

For further information or a current technical training calendar and agenda, contact ARPAC®'s training department at 847-678-9034 ext. 4088.

Custom machine specific training courses can be developed for delivery at your location or at ARPAC®. For further information and a quotation, contact ARPAC®'s training department.

10.3.4 ARPAC® Commitment

- To furnish equipment per quotation.
- Be readily available to communicate with the customer(s) to facilitate start-up.
- Service Technicians available for start-up supervision and instruction of personnel at prevailing rates and expenses.
- Upon arrival of the ARPAC® Service Technician, he should be able to commence immediately, minimize "downtime" of your production facilities and commence training of your personnel.

10.3.5 Customer On-Site Preparation

- Unload, unpack, and inspect the equipment for any freight damage (apparent or hidden). If there is any damage, the Bill of Lading will need to be signed, noting the damage. You will then need to file all the necessary freight claims with the appropriate carrier. All shipments are freight collect and you are responsible for any damages in transit.
- Remove all interfering equipment and clear area where equipment is to be installed.
- Assemble/erect subject equipment.
- Lag system to floor.
- Furnish all electrical wiring and connections per system requirements.

- Furnish any air and/or gas lines and connections if required.
- Integrate with any existing up and/or down stream equipment.
- Provide qualified technicians, operators, and maintenance personnel to start-up system.

10.3.6 Scheduling Service

If assistance is required during installation or operation of the system or if you need information pertaining to system-related problems not covered by this manual, please contact ARPAC® Service Dept. (telephone (847) 678-9034).

10.3.7 Aftermarket Contact Information

Contact information for parts and service is listed below. Please have your machine's model number and serial number ready when calling. Also have a Purchase Order number when calling.

ARPAC® Parts Contact Information
Phone: (847) 678-9034
Fax: (847) 678-2109
parts@arpac.com
Hours of operation Monday through Friday,
7:30 AM to 6:00 PM (Central Time)

ARPAC®Service Contact Information
Phone (847) 678-9034
Fax: (866) 365-4131
Hours of Operation Monday through Friday,
8:00 AM to 5:30 PM (Central Time)
After Hour Emergency Service: (847) 678-9034

Illustrated Parts List

11

11.1 Ordering Parts

For your convenience, replacement parts and accessories can be ordered from ARPAC® by fax 24 hours a day. Please have the following information available to ensure quick, easy, and accurate service.

- Your name and telephone number
- Your P.O. (Purchase Order) number
- Your preferred method of delivery

Replacement Parts Policy & Contact Information

Should a replacement part be needed, ARPAC®'s return material authorization policy must be adhered to. ARPAC® will not distribute equipment or parts without a purchase order from an authorized ARPAC® distributor. This procedure includes warranty and non-warranty replacement parts. A return authorization will be issued at that time, and credit will not be issued until the suspect part has been received and inspected. Call ARPAC® sales for the distributor in your area at (847) 678-9034.

ARPAC® Parts Contact Information
Phone: (847) 678-9034
Fax: (847) 678-2109
24 Hour Emergency Service: (800) 424-0545
parts@arpac.com
Open for service Monday through Friday,
7:00 AM to 6:00 PM (Central Time)

11.2 How to Use This Parts List

General Part Numbers

This chapter contains all part numbers necessary to order L-Series Automatic L-Bar Sealer replacement parts and assemblies.

This illustrated parts breakdown is presented in disassembled order. Detail parts are shown below their respective upper level assemblies whenever possible.

The parts lists follow the illustration for a particular assembly and represent components of that assembly. The number listed in the quantity column is the number of the specific part required to complete the assembly and may not reflect the quantity needed for the entire system.

The lists are divided into four columns. The item/index numbers refer to the identification number located on the drawing. The part number is the Arpac part number, used to identify the part for ordering. The part description column lists each part name, and the quantity column lists the quantity of that part used in that particular assembly.

Illustrations are shown before the parts list for each assembly.

11.3 Commonly Ordered Parts

Part Description	L-18 P/N	L-26 P/N
Circuit Protector CP30-BA2P1-M2A2p,2A (Qty. 1)	817130	817130
Circuit Protector CP30BA2P1-I2A2p,2A (Qty. 1)	817132	817132
Emergency Stop Button AR22VBR-13R (Qty. 1)	817125	817125
Fuse OT-4 4A (Qty. 8)	819258	817191
Fuse OT-5 A (Qty. 2)	819260	817192
Fuse OT-3 3A (Qty. 2)	819262	817193
Interface Unit Fx-25DU (Qty. 1)	817112	
PLC A/D Converter FX2N-4AD-TC (Qty. 1)	817111	817111
Cartridge Heater HP10KA-20-9 200V/400W (Qty. 1)	817077	817155
L-18: Cartridge Heater HP10KA-20-10 200V/250W L-26: Cartridge Heater HP10KA-20-10 200V/450W) (Qty. 1)	817075	817154
Cartridge Heater (Opt. Pad) 200V/200W (Qty. 2)		
AC Frequency Inverter FR-E520S-0.1K (Qty. 4)	817127	817127
AC Frequency Inverter SC-A2100U (Qty. 1)	817143	817143
Gear Motor GM-J90W 3ph, 200v, 600hz (Qty. 3)	817063	817063
Gear Motor GM-J50W 3ph, 200v, 60hz (Qty. 1)	817103	817103
Gear Motor GM-J25W 3ph, 200v, 60hz (Qty. 1)	817082	817082
Circuit Breaker QOU215, 2P, 15A (Qty. 1)	817116	817116
Roller Plunger Switch Z-15GQ22-B (Qty. 2)	817139	817139
Pushbutton Switch AR22EOR-10G (Qty. 1)	817121	817121
Pushbutton Switch AR22EOR-10R (Qty. 1)	817122	817122
Pushbutton Switch AR22EOR-10Y (Qty. 1)	817105	817105
Pushbutton Switch AR22EOR-10B (Qty. 2)	817123	817123
Photo Eye E3R-5DE4 (1set)	817359	817359
Indicator Lamp (Working) DR22F3M-M4G (24 VAC) (Qty. 1)	817119	817119
PLC Base FX2N-48MT-D (Qty. 1)	817107	817107
Indicator lamp (Source) DR22F3M-M4W (200VAC) (Qty. 1)	817117	817117
Proximity Switch TL-W5MD2 (Qty. 4)	817138	817138
Proximity Switch E2D-X2D1-N (Qty. 1)	817142	817142
Power Supply S82J-6024 (24VAC, 4.5A) (Qty. 1)	817137	817137
Rotary Encoder E6A2-CS5C (Qty. 1)	817196	817196
Reed Switch D-H7BL (Qty. 2)	817099	817099
Magnetic Switch GLS-1 (Qty. 2)	817102	817102
Relay MY4N-D2w/PYF14A (24VDC) (Qty. 1)	17141	817102
Selector Switch AR22PR-210B (Qty. 1)	817120	817120

Table 11-1: Commonly Ordered Parts

Part Description	L-18 P/N	L-26 P/N
Solid State Relay G3NA-210B5 (24VDC, 10A) (Qty. 2)	817134	817134
Solenoid Valve VFR2110-5DZC (24VDC) (Qty. 1)	817114	817114
Solenoid Valve VT325-025DLS (24VDC) (Qty. 1)	817101	817101
Thermocouple T-102K-H0.32 (Qty. 2)	817076	817076
Variable Resistor WA2WYA2SEBK1K2W (Qty. 2)	817128	817128
Spare Parts Kits:		
Seal Pad, 1/4” x 3/4”Soft (6 ft.)	818180	818180
2” Teflon Tape (3 mil) (1 rl)	817372	817372
Silicone Grease (1 tube)	817286	817286
T/D Seal Blade (1 ea.)	194974	195041
M/D Seal Blade (1 ea.)	194973	195043
T/D Heater (1 ea.)	817077	817155
M/D Heater (1 ea.)	817075	817154
Solid State Relay G3NA-210B (24 VDC) (1ea.)	817134	817134
Thermocouple (1 ea.)	817076	817076
Infeed Belt (1 ea.)	8170701	817160
Outfeed Belt (1 ea.)	817097	817158
Upper Scrap Belt (1 ea.)	817066	817153
Lower Scrap Belt (1 ea.)	817069	817078
Seal Head Solenoid VFR2110-5DZC (24VDC) (1 ea.)	817114	817114
Spare Parts Kit - Fuses:		
Fuse-Gould OT-4 4Amp (2 ea.)	817191	817191
Fuse-Gould OT-5 5Amp (2 ea.)	817192	817192
Fuse-Gould OT-3 3Amp (2 ea.)	817193 5	817193 5

Table 11-1: Commonly Ordered Parts

11.4 List of Options

L-18 P/N	L-26 P/N	Description
227913	227913	Lugged Infeed Conveyor Core (Refer to Section “11.19 6’ Lugged Infeed Conveyor Core (Option) [227913]” on page 11-40 for breakdown of assembly)
197353	197353	480 VAC Conversion Kit (Refer to Section “11.20 480VAC Conversion Kit (Option) [197353]” on page 11-42 for break-down of assembly)
197355	197346	Lower Film Cradle (Refer to Section “11.21 Lower Film Cradle (Option) [197355]” on page 11-43 for breakdown of assembly)
194576	194576	Auxilliary Emergency Stop Button (Refer to Section “11.22 Auxiliary Emergency Stop Button (Option) [194576]” on page 11-44 for breakdown of assembly)
197362.000A	197362.000A	Auxiliary Infeed Conveyor Control Relay (Refer to Section “11.23 Auxiliary Infeed Conveyor Control Relay (Option) [197362.000A]” on page 11-45 for breakdown of assembly)
194595	194595	Vertical Photoeye (Refer to Section “11.24 Vertical Photoeye (Option) [194595]” on page 11-46 for breakdown of assembly)
197340	197340	Pneumatic Hole Punch (Refer to Section “11.25 Pneumatic Hole Punch (Option) [197340]” on page 11-47 for breakdown of assembly)
194572	194572	Product Guide (Refer to Section “11.26 Infeed Product Guide (Option) [194572]” on page 11-48 for breakdown of assembly)
194582	194583	Seal Opening Kit (Refer to Section “11.27 Seal Opening Kit (Option)” on page 11-49 for breakdown of assembly)
194578	194578	Stack Light (Refer to Section “11.28 Stack Light (Option) [194578]” on page 11-50 for breakdown of assembly)
194575-100	194575-100	Registration Kit (Refer to Section “11.29 Registration Kit (Option) [194575]” on page 11-51 for breakdown of assembly)
240795	242261	Seal Bar Kit - Black Sparkle Coated (Refer to Sections “11.30 Seal Bar Kit - Black Sparkle Coated For L-18 (Option) [240795]” on page 11-52 or “11.31 Seal Bar Kit - Black Sparkle Coated For L26 (Option) [242261]” on page 11-54 for break-down of assembly)
226380	204017-000B	Seal Bar Kit - Plasma (Refer to Sections “11.32 Seal Bar Kit - Plasma for L-18 (Option) [226380]” on page 11-56 or “11.33 Seal Bar Kit - Plasma for L-26 (Option) [204017-000B]” on page 11-58 for breakdown of assembly)
824991	824992	Seal Bar Kit - Mushroom Radius Corner (Refer to Sections “11.34 Seal Bar Kit - Mushroom Radius Corner L-18 (Option) [824991]” on page 11-60 or “11.35 Seal Bar Kit - Mushroom Radius Corner L-26 (Option) [824992]” on page 11-62 for breakdown of assembly)
823407	823408	Seal Bar Kit - Mushroom Square Corner (Refer to Sections “11.36 Seal Bar Kit - Mushroom Square Corner L-18 (Option) [823407]” on page 11-64 or “11.37 Seal Bar Kit - Mushroom Square Corner L-18 (Option) [823407]” on page 11-66 for breakdown of assembly)

Table 11-2: List of Options

11.5 Overall Assemblies

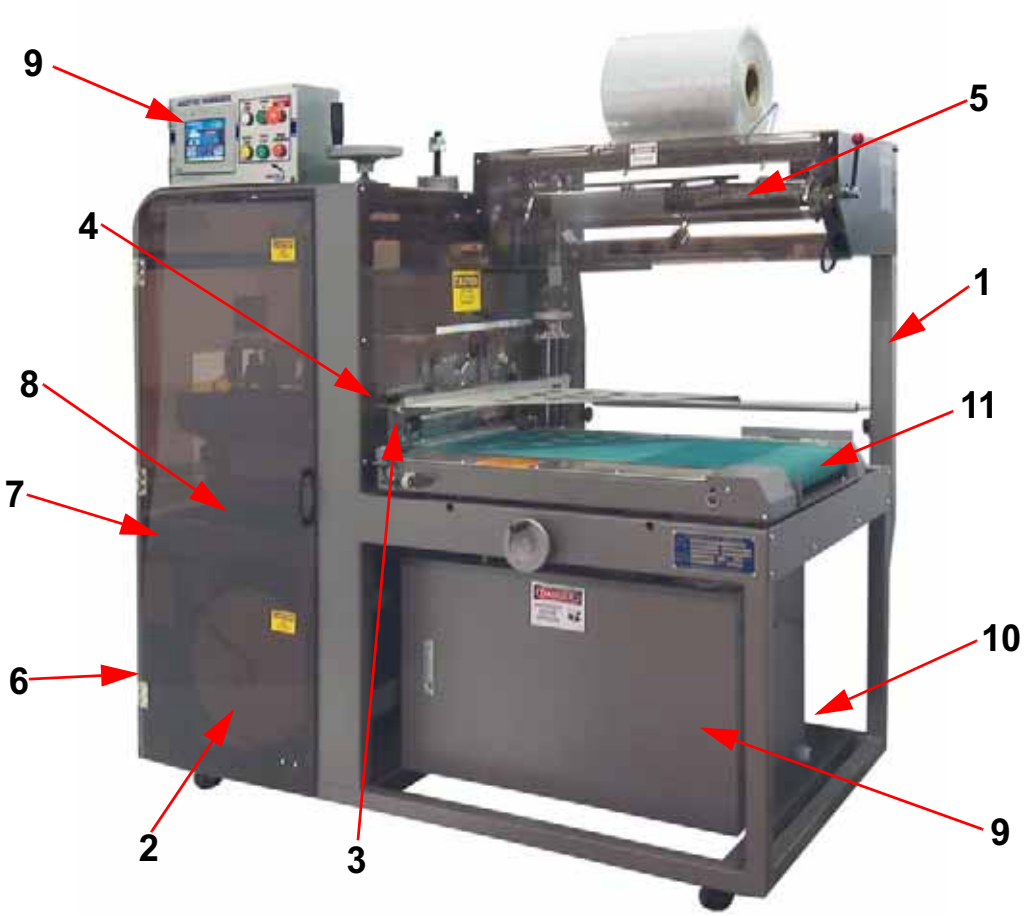


Figure 11-1. Overall Assemblies

Fig ref.	L-18 P/N	L-26 P/N	Description	Qty
1	197106	197106-500	Frame Assembly (Refer to Section “11.7 Frame Assembly” on page 11-11 for breakdown of assembly)	1
2	197107	197107-500	Scrap Rewind Assembly (Refer to Section “11.8 Scrap Rewind Assembly” on page 11-12 for breakdown of assembly)	1
3	197108	197108-500	Seal Head Assembly (Refer to Section “11.9 Seal Head Assembly” on page 11-14 for breakdown of assembly)	1
4	197109	197109-500	Seal Head Frame Assembly (Refer to Section “11.10 Seal Head Frame Assembly” on page 11-16 for breakdown of assembly)	1
5	197111-000A	197111-500	Film Unwind Assembly (Refer to Section “11.11 Film Unwind Assembly” on page 11-20 for breakdown of assembly)	1
6	197112-000A	197112-500	Take Away Assembly (Refer to Section “11.12 Take Away Assembly” on page 11-24 for breakdown of assembly)	1
7	197113-000B	197113-500	Outfeed Apron Assembly (Refer to Section “11.13 Outfeed Apron Assembly” on page 11-28 for breakdown of assembly)	1
8	197114-000A	197114-500	Outfeed Slide Conveyor Assembly (Refer to Section “11.14 Outfeed Slide Conveyor” on page 11-30 for breakdown of assembly)	1
9	-	-	Electrical Components (Refer to Section “11.15 Electrical Components (Part 1)” on page 11-34 for breakdown of assembly)	1
10	-	-	Pneumatic Components (Refer to Section “11.18 Pneumatics Components” on page 11-39 for breakdown of assembly)	1
11	197105.000A	197105-500	Infeed Conveyor Assembly (Refer to Section “11.6 Infeed Conveyor Assembly” on page 11-8 for breakdown of assembly)	1

Table 11-3: Overall Assemblies

11.6 Infeed Conveyor Assembly

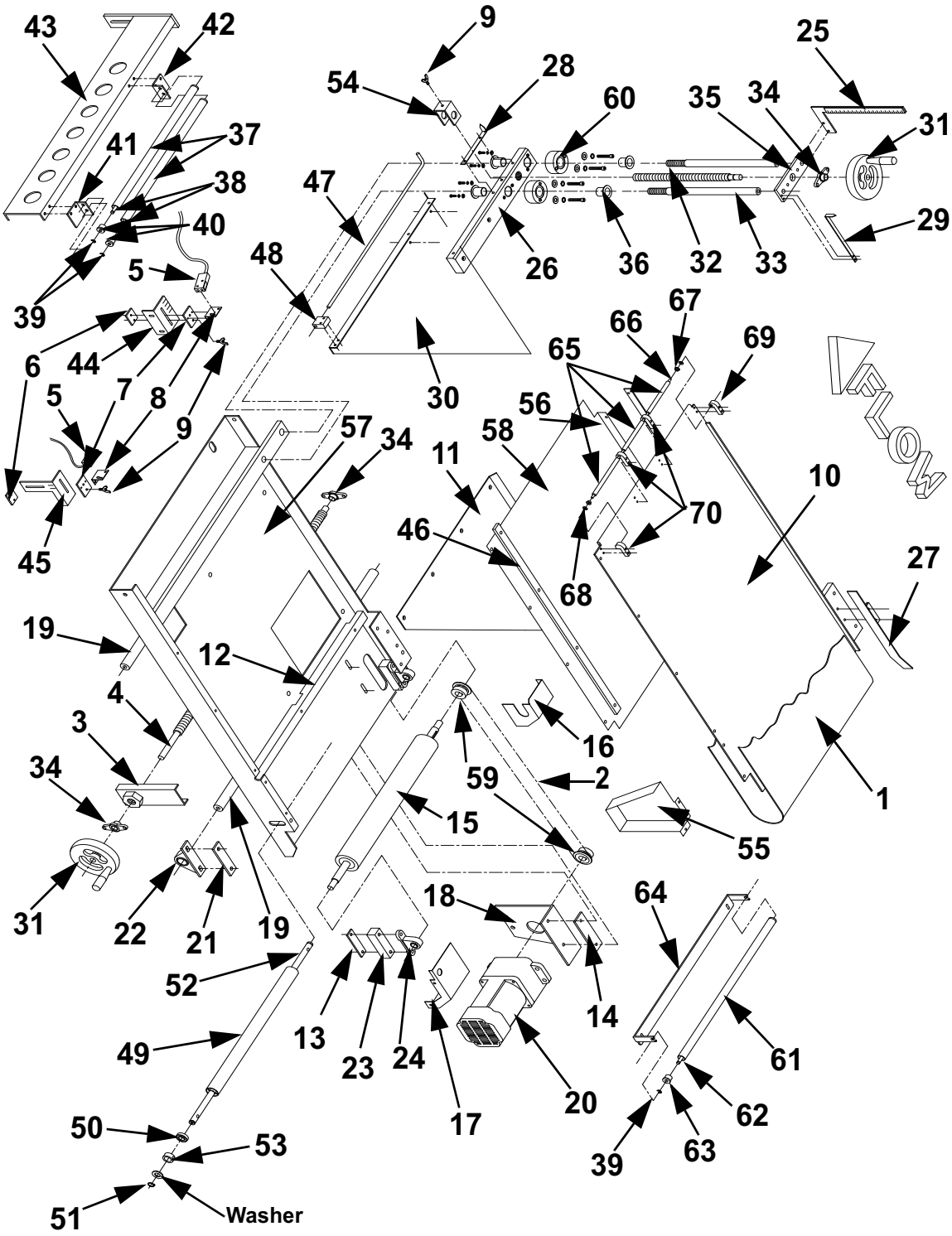


Figure 11-2. Infeed Conveyor Assembly

Fig ref.	L-18 P/N	L-26 P/N	Description	Qty
1A	827038	827003-001	Conveyor Belt Green Rough Top - Dry Ice	1
1B	817167	817179-001	Conveyor Belt White Smooth Top (Food Grade)	1
1C	817071	817160	Conveyor Belt Green Smooth Top	1
2	800459	800459	Drive Chain	1
3	195004	196247	Screw Block	1
4	194739	194832	Screw Rod	1
5	817135	817135	Photoeye, (Set)	1
6	194783	194833	Nut Plate	2
7	194784	194834	Plate Nut	2
8	194785	194785	Bracket; Photoeye	2
9	817057	817057	Wing Nut	3
10	195115	195126	Conveyor Bed Plate	1
11	194945	195028	Lower Film Former	1
12	194950	221287	Bar Support	1
13	194755	194755	Nut Plate	2
14	194706	194836	Nut Plate	1
15	195007	195026	Drive Roller	1
16	195010	195010	Guard	1
17	195011	195020	Guard	1
18	195013	221288	Motor Mount	1
		194837	End Roller	1
		194698	Roller Bracket	1
		194692	Roller Bracket	1
19	194751	194844	Slide Rod	2
20	817063	817063	Motor & Reducer	1
21	194710	194710	Nut Plate	4
22	817098	817098	Pillow Block Bushing	4
23	194707	194707	Block	2
24	817698	817698	Bearing	2
25	195014	195022	Scale	1
26	194941	194941	Mounting Block	1
27	194959	195024	Guide	1
28	194781	194781	Pointer	1
29	194753	194840	Pointer	1
30	195116	195123	Upper Film Former	1
31	817069	817069	Handwheel	1
32	194756	194842	Screw	1
33	194701	194838	Slide Rod	2

Table 11-4: Infeed Conveyor Assembly

Fig ref.	L-18 P/N	L-26 P/N	Description	Qty
34	817068	817068	2 Hole Bearing	3
35	194754	194754	Plate	1
36	817152	817152	Garlock Busing	2
37	216278-003	216278-003	Roller Tube	1
38	194799	194853	Roller Shaft	1
39	817090	817090	Circlip	2
40	194792	194792	Bushing	2
		221289	Bracket	1
41	194850	194850	Roller Bracket, Front	1
42	194851	194851	Roller Bracket, Rear	1
43	195110	195032	Bracket	1
44	194789	194835	Photoeye Bracket	1
45	195015	195019	Photoeye Bracket	1
46	194703	194839	Bar	1
47	194786	194841	Upper Film Support Rod	1
48	194691	194691	Block	1
49	194758	194846	Roller Tube	1
50	817144	817144	Bearing	2
51	817054	817054	Snap Ring	2
52	194760	194848	Roller Shaft	1
53	194761	194761	Collar	2
54	194752	194752	Bracket	1
55	195117	195118	Guard	1
56	194709	194843	Bracket	1
57	195161	195181	Frame	1
58	195119	195125	Pan	1
59	817085	817085	Sprocket, RS35B12	2
60	194884	194884	Extension Block Bushing	2
61	194892	194893	Roller Tube, Idler	1
62	196185	194894	Shaft	1
63	817182	817182	Bearing	2
64	195061	195062	Idler Roller Mounting Bracket	1
65	216275-001	216275-001	Nose Roller Shaft	2
66	196189	196189	Shaft	1
67	194920	196190	Bearing	4
68	817195	817195	Fender Washer	4
69	194693	194693	Bushing Housing, Center/Rear	2
70	194699	194699	Bushing Housing, Front	1
71	194896	194896	Nut Block	1

Table 11-4: Infeed Conveyor Assembly

11.7 Frame Assembly

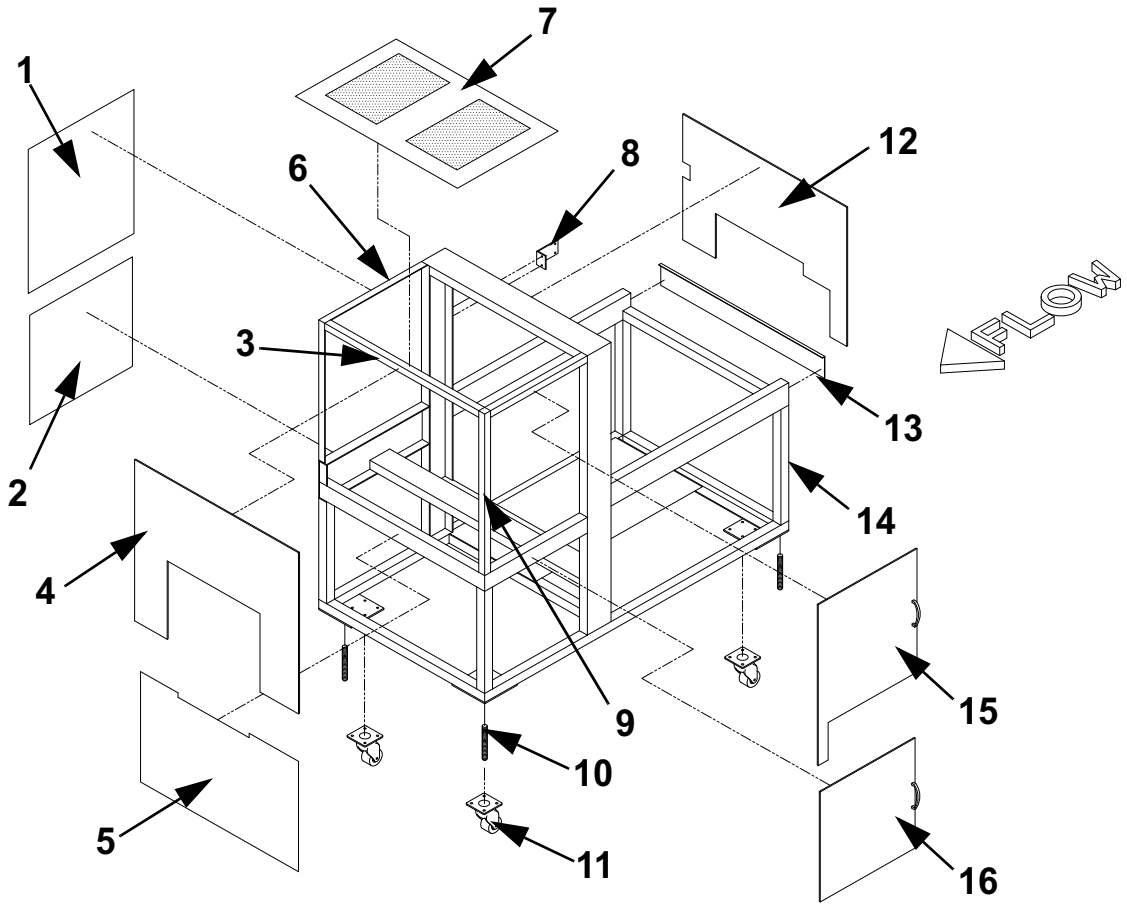


Figure 11-3. Frame Assembly

Fig ref.	L-18 P/N	L-26 P/N	Description	Qty
1	194942	195037	Cover	1
2	194711	194869	Cover	1
4	195165	195190	Cover Discharge (Clear)	1
5	194947	221307	Cover Discharge Lower	1
7	195166	195166	Cover, Top	1
8	194962	195036	Bracket	1
10	194704	194704	Screw, Levelings	4
11	817095	817095	Caster	4
12	-	195131	Cover (Clear)	1
13	194705	194868	Cover For Duct	1
14	197110		Frame, Main	1
15	194944	195040	Door (Clear)	1
16	195081	195133	Lower Door (Clear)	1

Table 11-5: Frame Assembly

11.8 Scrap Rewind Assembly

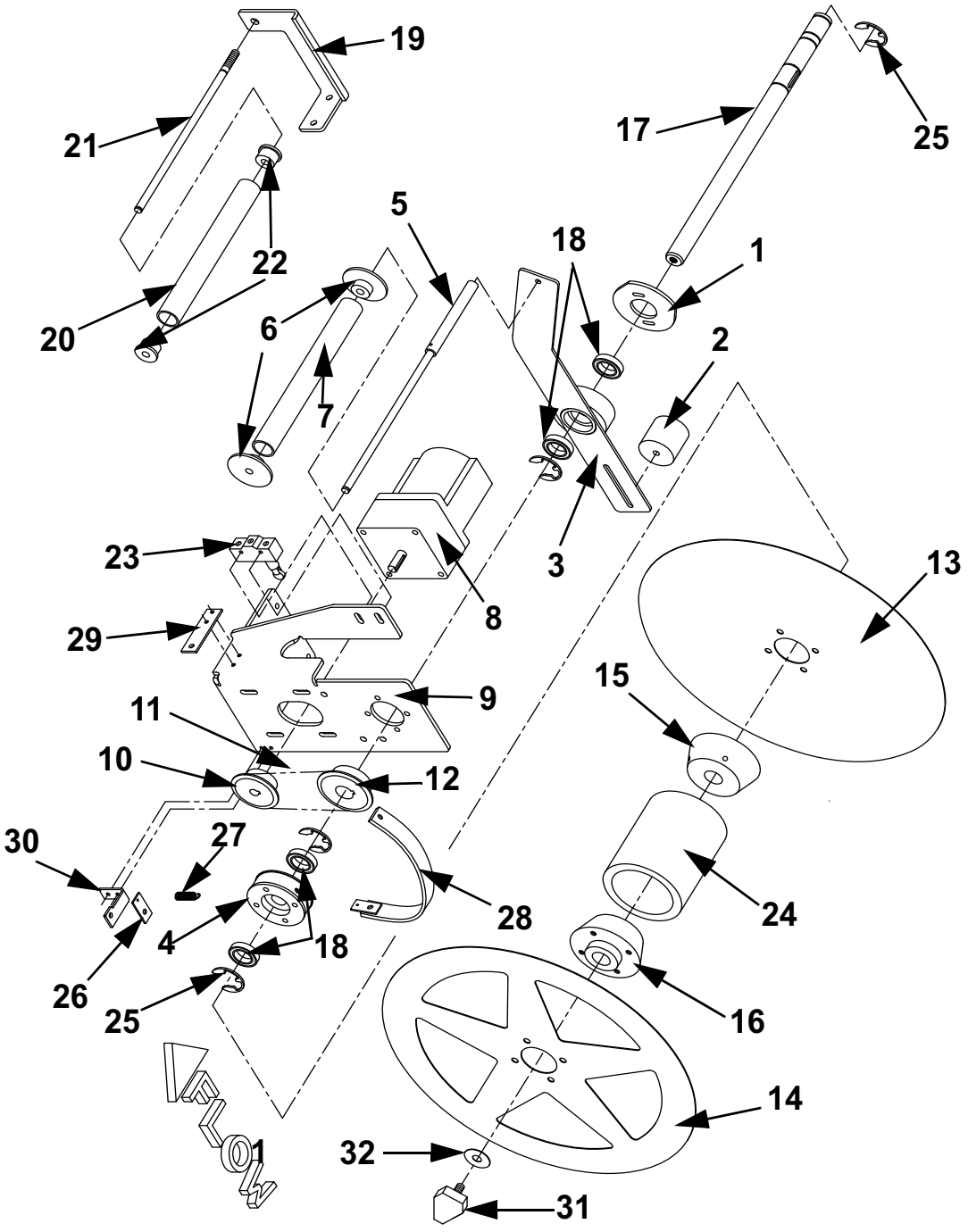


Figure 11-4. Scrap Rewind Assembly

Fig ref.	L-18 P/N	L-26 P/N	Description	Qty
1	194764	194764	Cam	1
2	194763	194763	Counter Weight	1
3	195088	195088	Dancer Arm	1
4	194970	194970	Bearing Housing	1
5	194971	194971	Shaft	1
6	194766	194766	Bushing; Flanged	1
7	194767	221286	Roller; Tube	1
8	817082	817082	Motor	1
9	195085	195085	Motor Mount	1
10	817080	817080	Drive Sprocket	1
11	817079	817079	Chain	1
12	817081	817081	Driven Sprocket	1
13	194964	194964	Spool End, Inner	1
14	194965	194966	Spool End, Outer	1
15	194967	194967	Hub, Inner	1
16	194968	194968	Hub, Outer	1
17	194960	194961	Shaft	1
18	817146	817146	Bearing, NSK 6804Z	1
19	194992	195052	Bracket	1
20	194804	195307	Roller	1
21	194805	194805	Axle	1
22	194662	194662	Hub	2
23	817139	817139	Roller Plunger	1
24	196188	196188	Core	1
25	817183	817183	“E” Clip	4
26	194900	194900	Retainer; Spring	2
27	817184	817184	Spring	1
28	194903	194903	Brake; Leather	1
29	194901	194901	Bracket; Leathermounting	1
30	194902	194902	Bracket; Lower	1
31	817185	817185	Knob; 3 Lobe	1
32	817186	817186	Washer; Fender	1

Table 11-6: Scrap Rewind Assembly

11.9 Seal Head Assembly

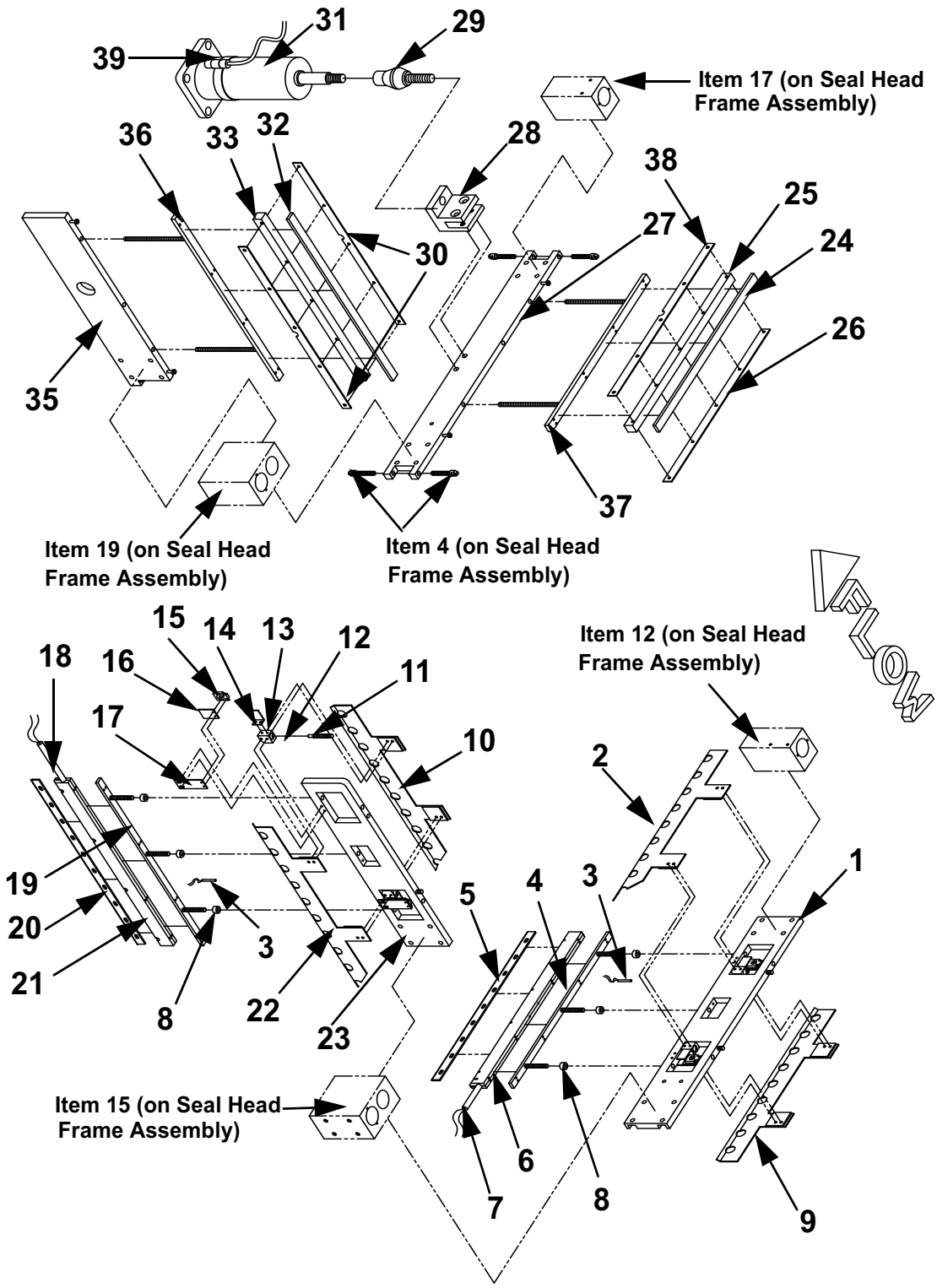


Figure 11-5. Seal Head Assembly

Fig ref.	L-18 P/N	L-26 P/N	Description	Qty
1	195168	195191	T/D Seal Bar Support	1
2	196978	195135	T/D Film Clamp, Inner	1
3	817076	817076	Thermocouple	2
4	194975	195048	T/D Bar Mount Assembly	1
5	194974	195041	Seal Bar Blade - Standard	1
6	195090	195140	T/D Seal Blade Insert	1
7	817077	817155	T/D Heater Cartiridge	1
8	194735	194735	Insulator	6
9	195094	195134	T/D Film Clamp, Outer	1
10	195092	195137	M/D Film Clamp, Inner	1
11	194734	194873	Stud	4
12	817073	817073	Spring	4
13	194717	194717	Block	4
14	194715	194715	Sensor Plate	4
15	817074	817074	Safety Switch	4
16	194712	194712	Insulator	4
17	194721	194721	Mounting Plate	4
18	817075	817154	M/D Heater Cartidge	1
19	194976	195042	M/D Bar Mount Assembly	1
20	194973	195043	Seal Bar Blade - Standard	1
21	195091	195141	M/D Seal Bar Body, Set	1
22	195093	195136	M/D Film Clamp, Outer	1
23	195096	195138	M/D Seal Head Support	1
24	194718	194871	T/D Seal Pad	1
25	194954	195045	T/D Seal Anvil	1
26	194720	194874	Side Plate	1
27	195167	195192	T/D Anvil Support Bar	1
28	194983	195049	Block	1
29	817088	817088	Floating Joint	1
30	194732	194875	Side Plate	2
31	817084	817162	Air Cylinder	1
32	194731	194872	M/D Seal Pad	1
33	194952	195046	M/D Seal Anvil	1
34	194733	194733	Spacer	4
35	195083	195139	M/D Anvil Support Bar	1
36	194951	195047	M/D Anvil Mounting	1
37	194953	195044	T/D Anvil Mounting	1
38	194719	194870	Side Plate	1
39	817099	817099	Reed Switch	1
40	817372	817372	Tape, Teflon 2” x .003 X 10 Yards	1

Table 11-7: Seal Head Assembly

11.10 Seal Head Frame Assembly

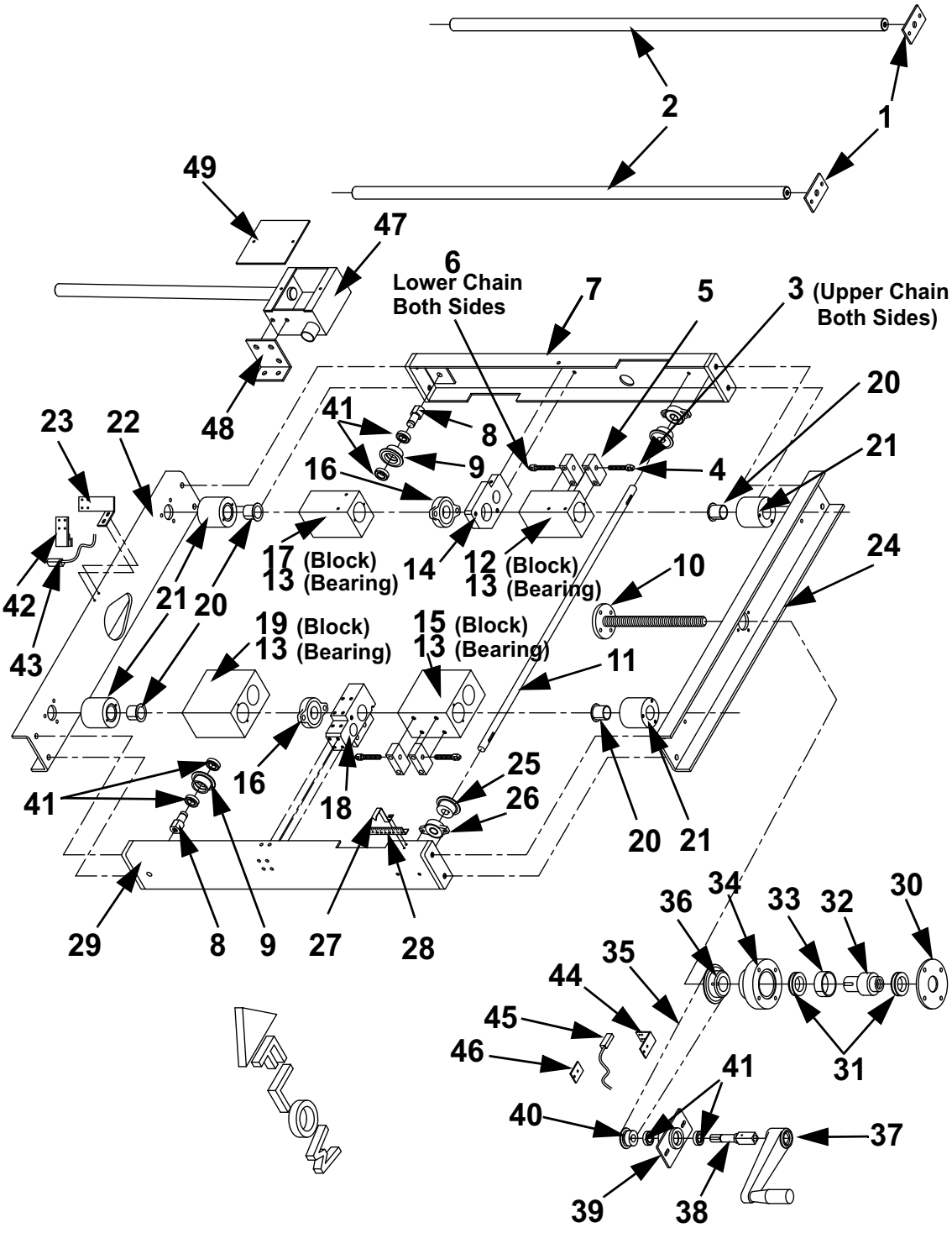


Figure 11-6. Seal Head Frame Assembly

Fig ref.	L-18 P/N	L-26 P/N	Description	Qty
1	194773	194773	Plate	2
2	194772	194880	Polished Shaft	2
3	194782	194876	Chain	2
4	194775	194775	Stud	4
5	194774	194774	Block	4
6	194781	194876	Chain	2
7	195170	195194	Side Frame, Rear	1
8	194771	194771	Stud, Idler	2
9	194770	194770	Sprocket, Idler	2
10	194981	195051	Screw	1
11	194776	194878	Shaft	1
12	195100	195142	Guide Block, Top Rear	1
13	817087	817087	Linear Bearing	8
14	194978	194978	Block	1
15	195097	195145	Guide Block, Top Front	1
16	194779	194779	Bushing	2
17	195099	195143	Guide Block, Bottom Rear	1
18	194986	194986	Mounting Block	1
19	195098	195144	Guide Block, Bottom Front	1
20	817092	817092	Bushing	4
21	194985	194985	Bushing Housing	4
22	195169	195193	Bottom Frame	1
23	194769	194769	Sensor Bracket	1
24	195101	195146	Top Frame	1
25	194777	194777	Sprocket	2
26	817094	817094	Bearing	2
27	194778	194778	Pointer	1
28	194793	194793	Ruler	1
29	195171	195195	Side Frame, Front	1
30	194984	194984	Plate	1
31	817091	817091	Thrust Bearing	2
32	194780	194780	Nut	1
33	817093	817093	Bushing	1
34	194987	194987	Bearing Housing	1
35	817089	817164	Chain	1
36	817083	817083	Sprocket	1
37	817086	817086	Crank Handle	1

Table 11-8: Seal Head Frame Assembly

Fig ref.	L-18 P/N	L-26 P/N	Description	Qty
38	194980	194980	Shaft	1
39	194979	194979	Bearing Housing	1
40	817085	817085	Sprocket	1
41	817052	817052	Bearing, NSK 6902Z	6
42	194895	194895	Slide Bracket	1
43	917099	917099	Reed Switch	1
44	194825	194825	Mounting Bracket	1
45	817161	817161	Proximity Switch	1
46	194860	194860	Bar Nut	1
47	197103	197103	Box; Junction	1
48	194898	194898	Bracket; Mounting	1
49	194899	194899	Cover	1

Table 11-8: Seal Head Frame Assembly

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11.11 Film Unwind Assembly

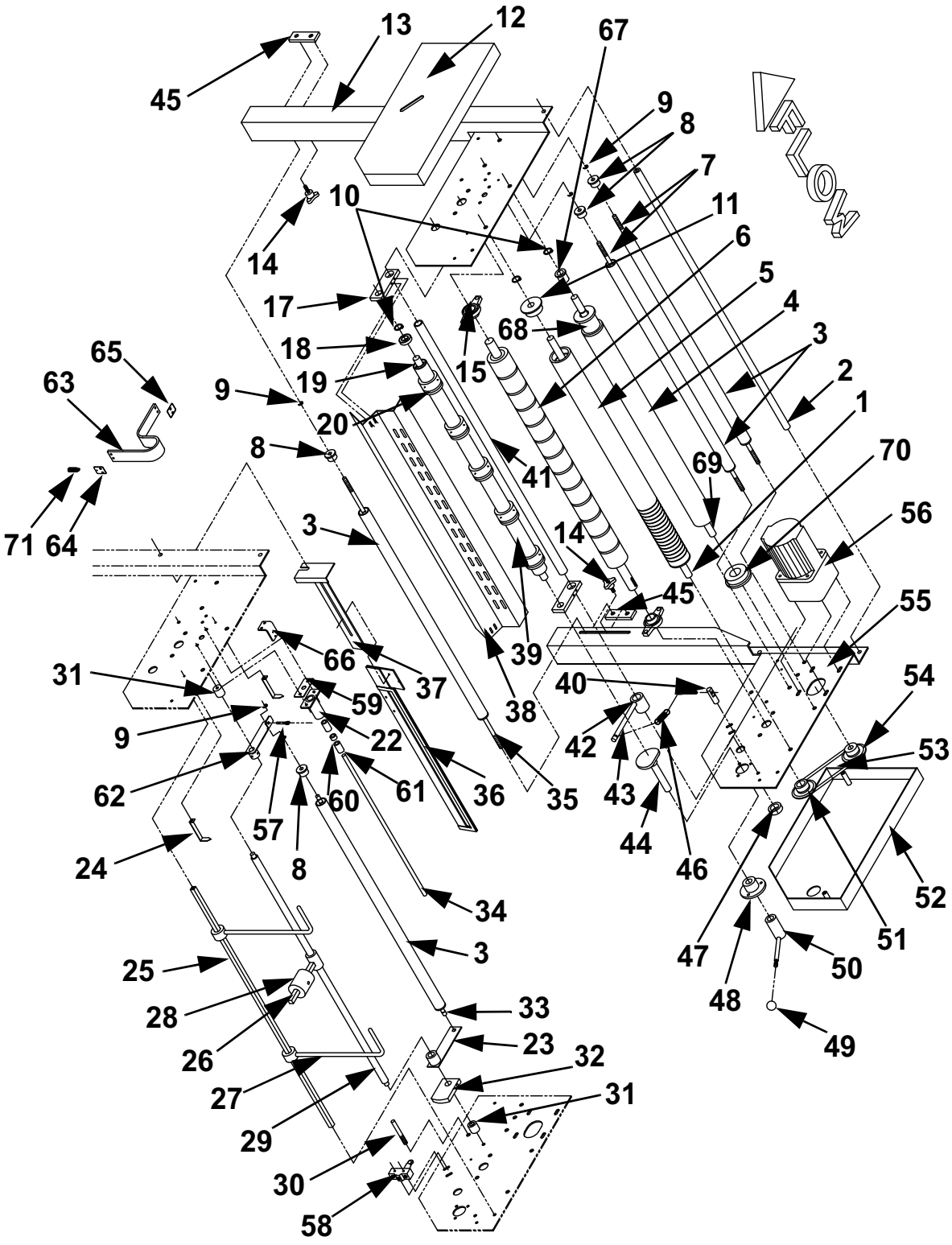

Figure 11-7. Film Unwind Assembly

Fig ref.	L-18 P/N	L-26 P/N	Description	Qty
1	194883	194854	Shaft, Film Cradle Roller	1
2	194642	194855	Rod	1
3	194661	194856	Roll, Idler	4
4	195054	195033	Roller Film Cradle W/Out Grooves	1
5	195053	195034	Roller Film Cradle W/Grooves	1
6	194940	195035	Film Drive Roller	1
7	194659	194857	Shaft, Idler Roll	2
8	194662	194662	Bushings	8
9	817053	817053	Snap Ring	10
10	817054	817054	Snap Ring	6
11	194665	194665	Bushing	3
12	195156	195156	Cover	1
13	195152	195182	Support Bracket	1
14	817062	817991	Hand Knob	2
15	817064	817064	Bearing, 2 Hole Frange	2
16	194933		Adjustable Bracket	1
17	194646	194646	Bracket	2
18	817052	817052	Bearing	2
19	194653	194858	Shaft, Roller, Film Pinch	1
20	194672	194672	Perf, Wheel, Dual “O” Ring Style	4
21	817065	817065	Pin (P/O Item 00200)	20
23	195059	195059	Bracket	1
24	194935	194935	Bracket, Dancer Collar	1
25	194666	194666	Static Discharge Point	2
26	194675	194859	Rod	1
27	194643	194643	Shaft; Weight	1
28	194937	194937	Film Guide	1
29	194641	194641	Weight	1
30	194640	194861	Pivot, Shaft Dancer	1
31	194650	194650	Stud	1
32	194668	194668	Housing	2
33	194667	194667	Cam	1
34	194656	194862	Shaft, Dancer Roll	1
35	194906	194864	Film Separator	1
36	194655	194865	Shaft, Idler Roll	1
37	195163	195183	Static Eliminator Brush	1
38	195079	195079	Bracket	1

Table 11-9: Film Unwind Assembly

Fig ref.	L-18 P/N	L-26 P/N	Description	Qty
39	195153	195184	Guard	1
40	194651	194866	Roller, Film Pinch	1
41	194647	194647	Spring Fixture	1
42	194645	194867	Pivot Shaft	1
43	194669	194669	Spring Adjustment Bolt	1
44	194673	194673	Release Lever	1
45	194677	194677	Cam	1
46	194924	194924	Nut Plate	2
47	817060	817060	Spring	1
48	194644	194644	Nut Washer	1
49	194676	194676	Bearing	1
50	817058	817058	Knob	1
51	194938	194938	Handle	1
52	194689	194689	Sprocket	1
53	195160	195160	Cover	1
54	817061	817061	Chain	1
55	194690	817310	Sprocket	1
56	195159	195187	Support Bracket	1
57	817103	817103	Gear Motor	1
58	194908		Screw; Spring Retaining	1
59	817139	817139	Switch, Roller Plunger	1
60	195060	195060	Plate; Collar Retaining	1
61	194904	194904	Collar; Rod Retainer (Center)	1
62	194905	194905	Collar; Rod Retainer (Outer)	2
63	195068	195068	Bracket; Dancer Collar W/90 Bend	1
64	194909	194909	Brake; Leather	1
65	194910	194910	Bracket; Spring Retaining	1
66	194911	194911	Bracket, Leather Retaining	1
67	194907	194907	Bracket; Brake Mounting	1
68	194913	194913	Bushing; Brake Collar	1
69	194912	194912	Collar; Brake	1
70	195066	195066	Shaft	1
71	194914	194914	Bushing; Film Cradle Roller	1
72	817190	817190	Spring; Extension	1

Table 11-9: Film Unwind Assembly

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11.12 Take Away Assembly

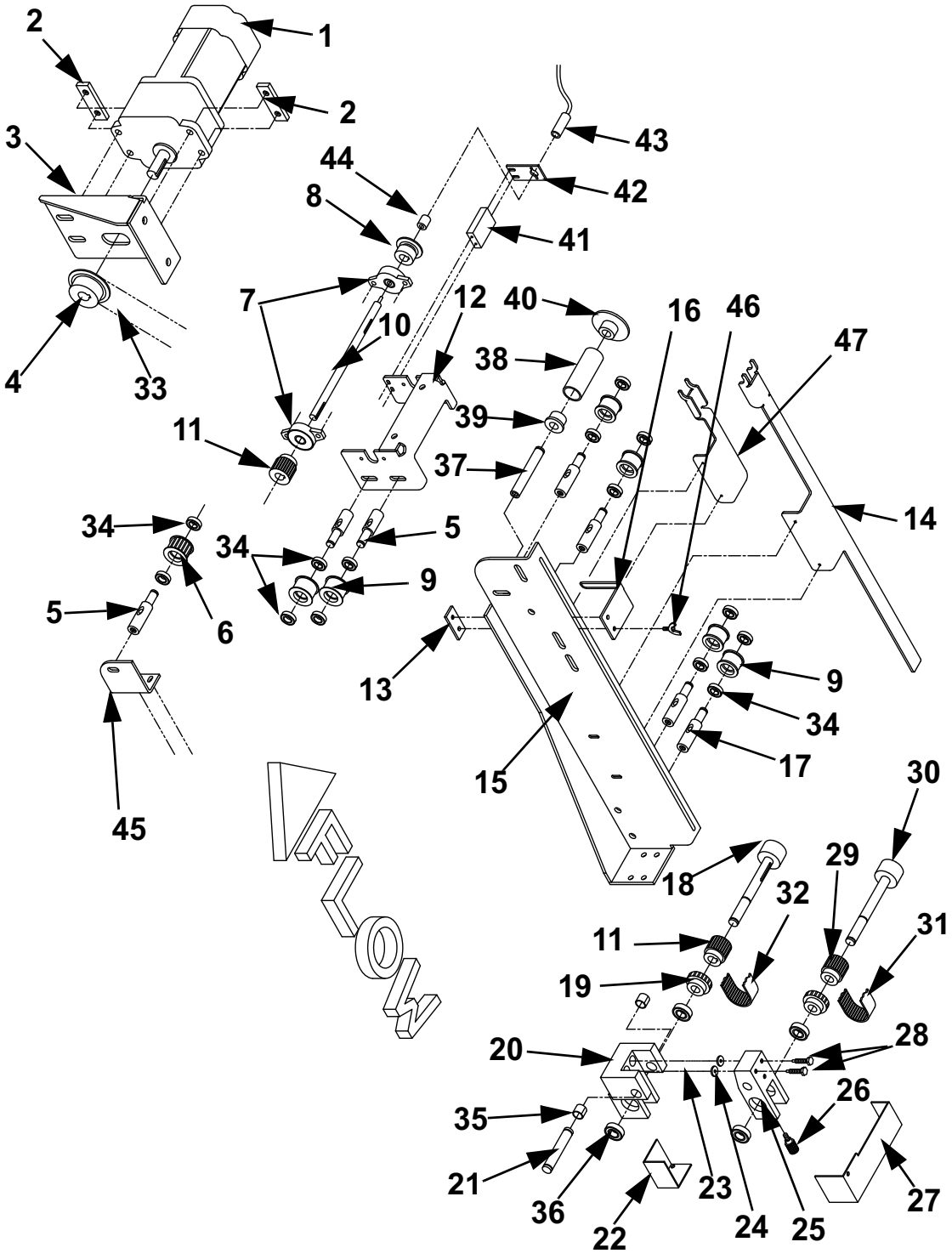

Figure 11-8. Take Away Assembly

Fig ref.	L-18 P/N	L-26 P/N	Description	Qty
1	817063	817063	Motor	1
2	194708	194708	Nut Plate	2
3	194949	194949	Bracket, Motor Mount	1
4	194737	194737	Sprocket	1
5	194686	194886	Stud	3
6	194684	194684	Idler Pulley, Flanged	1
7	817068	817068	Bearing, Ashi Flange	2
8	194736	194736	Sprocket	1
9	194687	194687	Idler Pulley, Smooth	6
10	194697	194697	Shaft	1
11	194740	194740	Drive Pulley, Htd Timing Belt	2
12	195196	195196	Bracket, Drive Shaft Mounting	1
13	194679	194679	Nut Plate	1
14	195102	195148	Pressure Plate	1
15	195109	195147	Take-Away Bracket	1
16	194936	194936	Scrap Finger	1
17	194682	194882	Stud	4
18	194716	194716	Lower Pinch Roller	1
19	194683	194683	Open Gear	2
20	194972-000A	194972	Block	1
21	194678	194678	Pin	1
22	194788	194788	Guard	1
23	817059	817059	Spring Compression	2
24	194750	194750	Washer	2
25	194768	194768	Block	1
26	194745	194745	Knob	1
27	194989	194989	Guard	1
28	194748	194748	Screw	2
29	194741-000A	194741-000A	Pulley, Htd Timing Belt	1
30	194694	194694	Upper Pinch Roller	1
31	817066	817153	Upper Belt, 465 J	1
32	817067	817078	Lower Belt, 353 J	1
33	194714	194714	Chain, Roller RS35	1
34	817065	817065	Bearing, NSK 6800 Z	14
35	817147	817147	Bushing, Garlock MB1212DO	2
36	817144	817144	Bearing, NSK 6901Z	4

Table 11-10: Take Away Assembly

Fig ref.	L-18 P/N	L-26 P/N	Description	Qty
37	194801	194801	Stud	1
38	194803	194803	Roller	1
39	194800	194800	Hub	1
40	194802	194802	Hub	1
41	194921	194921	Standoff	1
42	194922	194922	Mounting Bracket	1
43	817196	817196	Rotary Encoder	1
44	821907	821907	Shaft Coupling	1
45	195069	195069	Idler Mounting Bracket	1
46	817057	817057	Wing Nut	1
47	195071	195063	Plate; Upper Pressure	1

Table 11-10: Take Away Assembly

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11.13 Outfeed Apron Assembly

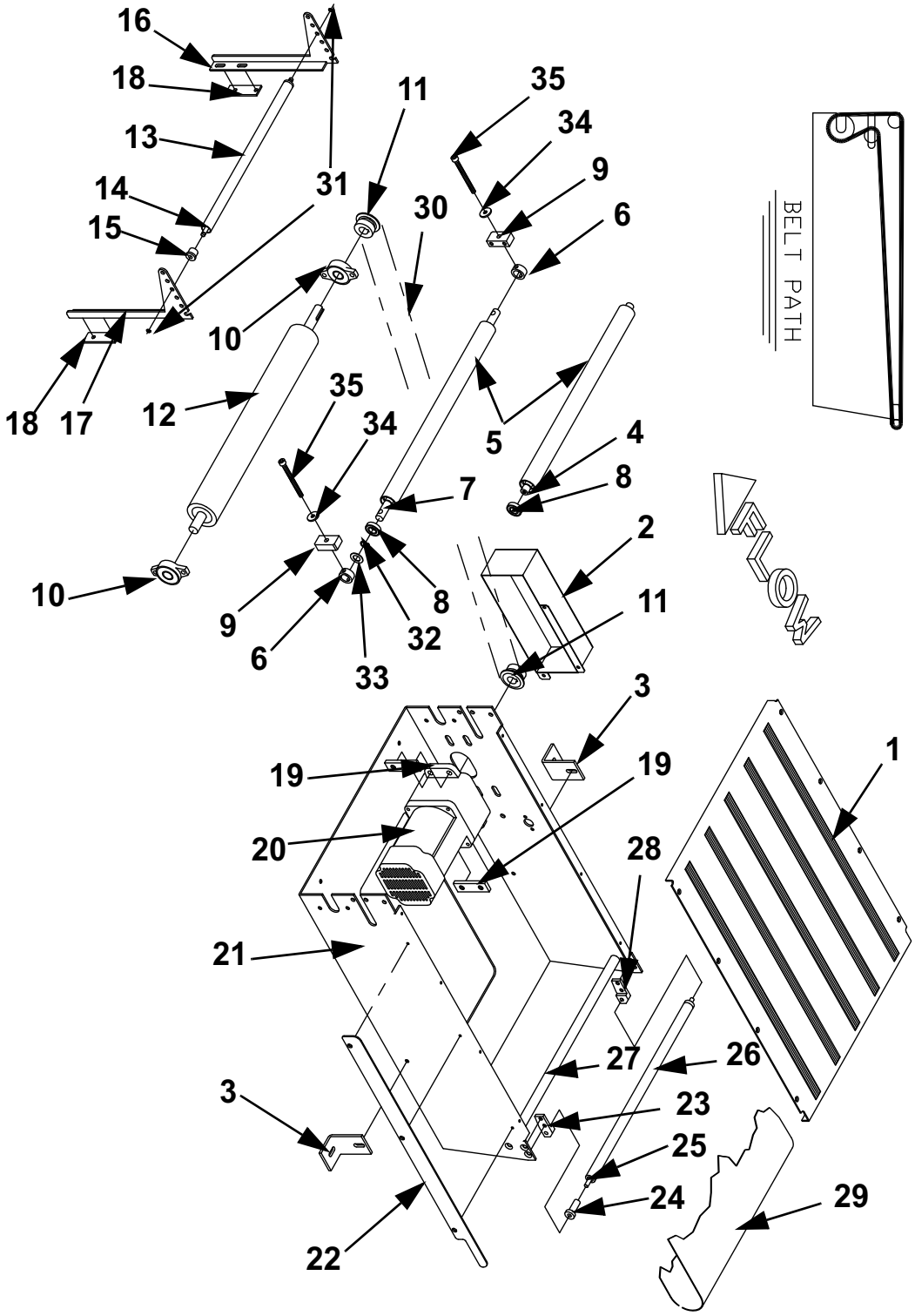

Figure 11-9. Outfeed Apron Assembly

Fig ref.	L-18 P/N	L-26 P/N	Description	Qty
1	195107	195121	Plate, W/Tape	1
2	194990	194990	Guard	2
3	194746	194746	Bracket	2
4	194797-000A	194818	Shaft	1
5	194794	194820	Roller	2
6	194761	194761	Collar	2
7	194743	194822	Shaft	1
8	817144	817144	Bearing, 6901Z	4
9	194730	194730	Block	2
10	817094	817094	Bearing	2
11	817085	817085	Sprocket	2
12	194958	195017	Roll, Rubber	1
13	216278-001	216278-004	Roller	6
14	194791	194824	Shaft	6
15	194792	194792	Bushing, Roller	12
16	243019-001	194956	Bracket	1
17	243019-002	194977	Bracket	1
18	194747	194747	Spacer	2
19	194708	194708	Nut Plate	2
20	817063	817063	Motor	1
21	195173	195177	Frame	1
22	194955	195018	Bracket	1
23	194713	194713	Roll Bracket	1
24	194728	194728	Stud	2
25	194723	194827	Shaft	1
26	194727	194829	Tube; Nose Roller	1
27	194725	194831	Bar	1
28	194744	194744	Roller Bracket	1
29A	827038-001	827003	Conveyor Belt Green Rough Top - Dry Ice	1
29B	817167-001	817180	Conveyor Belt White Smooth Top (Food Grade)	1
29C	817097	817158	Conveyor Belt Green Smooth Top	1
30	220075	220075	Chain	1

Table 11-11: Outfeed Conveyor Assembly

11.14 Outfeed Slide Conveyor

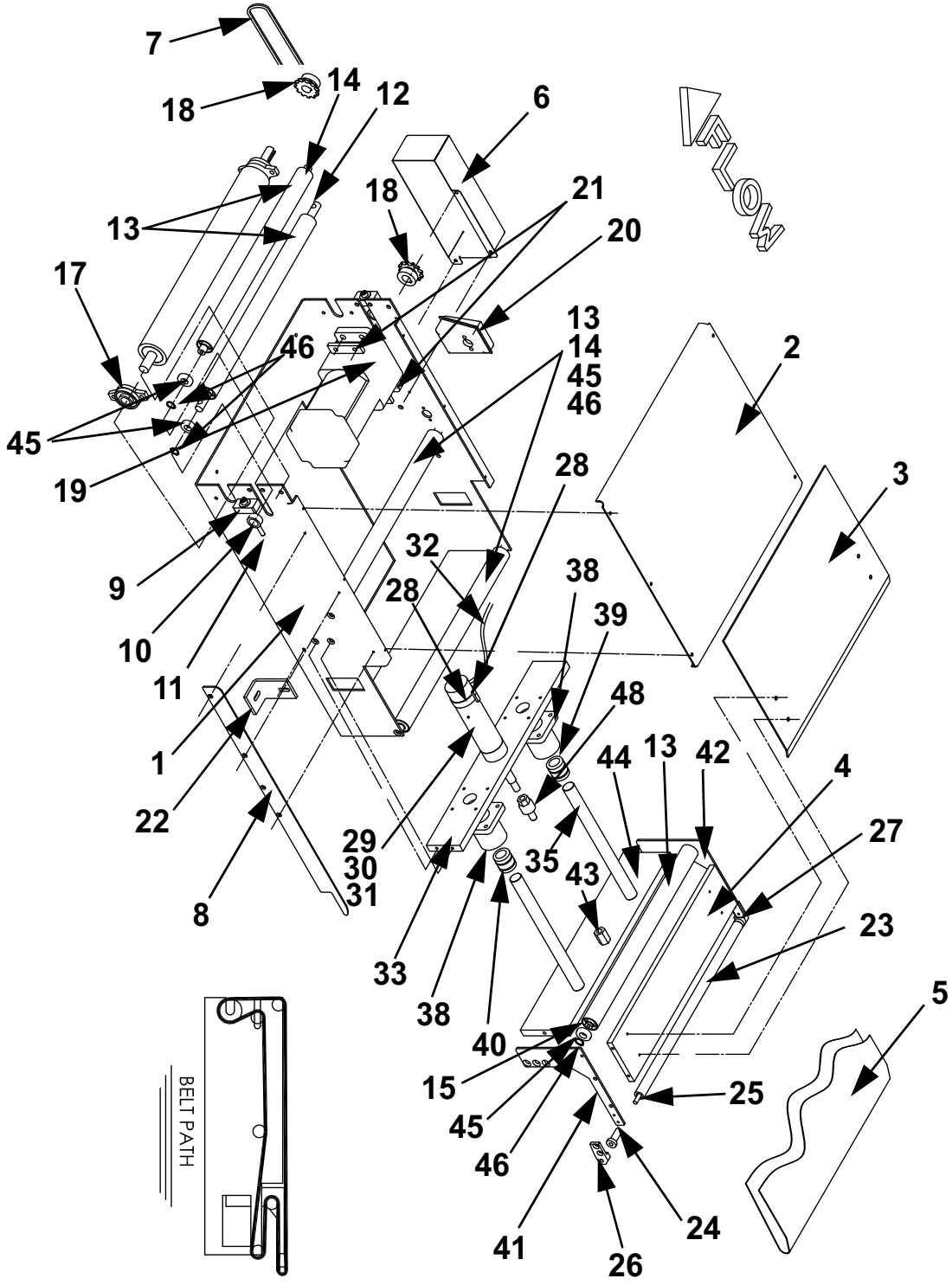

Figure 11-10. Outfeed Slide Conveyor

Fig ref.	L-18 P/N	L-26 P/N	Description	Qty
1	195175	221290	Frame	1
2	194995	221291	Bed Plate	1
3	195112	221292	Slide Bed	1
4	194997	221293	Cross Member	1
5A	827039	827040	Conveyor Belt Green Rough Top - Dry Ice	1
5B	827041	817167-002	Conveyor Belt White Smooth Top (Food Grade)	1
5C	817148	817631	Conveyor Belt Green Smooth Top	1
6	194990	194990	Guard	1
7	220075	220075	Chain	1
8	194993	221296	Guide	1
9	194730	194730	Block	2
10	194761	194761	Collar	2
11	817188	817188	Tensioner Bolt & Washer	2
12	194743	221295	Tension Roller Shaft	1
13	194795	221297	Roller Tube	5
14	194797-000A	221298	Roller Shaft	3
15	194806	221299	Roller Shaft	1
16	194958	221300	Drive Roller	1
17	817094	817094	Bearing	2
18	817085	817085	Sprocket	2
19	817063	817063	Motor	1
20	817187	817187	Junction Box	1
21	194708	194708	Nut Plate	2
22	194746	194746	Mounting Foot	2
23	194726	221301	Nose Roller Tube	1
24	194729	194729	Bushing	2
25	194723	221302	Roller Shaft	1
26	194807	194807	Bracket	1
27	194808	194808	Bracket	1
28	817099	817099	Magnetic Reed Switch	1
29	817149	817149	Air Cylinder	1
30	817114	817114	Solenoid Valve (24VDC)	2
31	817113	817189	Flow Restrictor	2
32	817157	221303	Air Tubing	12 ft.
33	194999	221304	Cross Member	1

Table 11-12: Outfeed Slide Conveyor

Fig ref.	L-18 P/N	L-26 P/N	Description	Qty
34	195000	221305	Bracket Cross Member	1
35	194809	194885	Linear Shaft	2
36	194810	194810	Stroker Limiter	1
37	195001	195001	Threaded Rod	1
38	817173	817173	Bushing Housing Only SFPBE-12	2
39	817174	817174	Bushing FL-12	1
40	817150	817150	Bushing; Compensating FLC-12	1
41	195003	195003	Carriage Side Plate Front	1
42	195023	195023	Carriage Side Plate Rear	1
43	194886	194886	Coupling; Cylinder M/F	1
44	195055	221306	Bracket Cross Member	1
45	817144	817144	Bearing	10
46	817170	817170	External Snap Ring	8
47	817156	817156	Straight Air Fitting Manifold (NS)	2
48	817172	817172	Floating Joint Coupling	1

Table 11-12: Outfeed Slide Conveyor

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11.15 Electrical Components (Part 1)

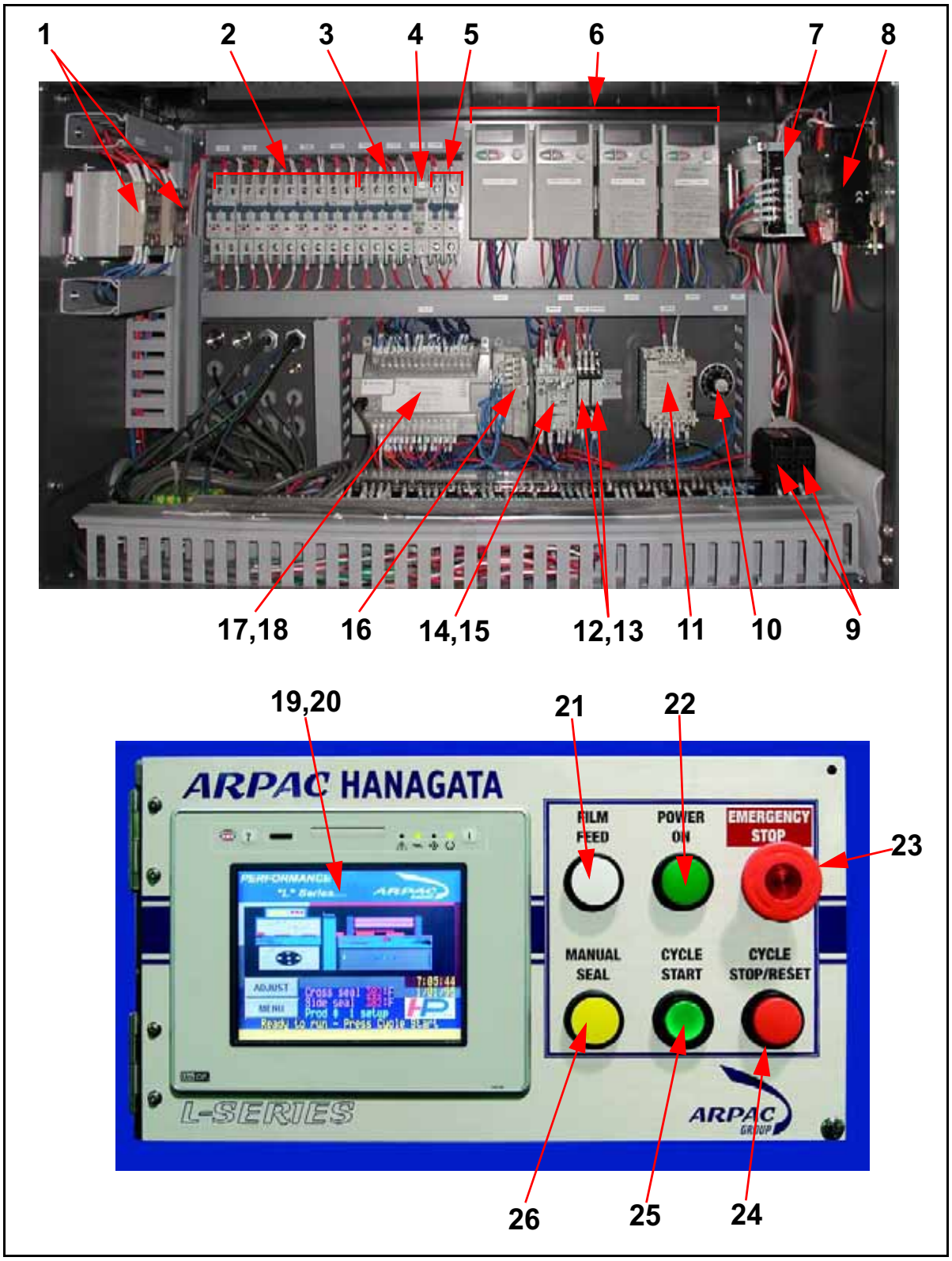

Figure 11-11. Electrical Components (Part 1)

Fig ref.	Part number	Description	Qty
1	817134	Solid State Relay, Omron G3NA-210B5	2
2	804000-005	Circuit Breaker, Allen-Bradley 1492-CB1G050 277V 5 A	5
3	804000-130	Circuit Breaker, Allen-Bradley 1492-CB2G030 480V 3A	2
4	804000-017	Circuit Breaker, Allen-Bradley 1492-CB2G050 480V 5A	1
5	804000-003	Circuit Breaker, Allen-Bradley 1492CB1G030 277V 3A	2
6	817127	Adjustable Frequency Motor Controller Inverter, Mistubishi FREQROL-E500-FR-E520S-0.1 K	4
7	817137	Power Supply, Omron S82J-10024	1
8	817116	Main Circuit Breaker, 15 Amp, Square D QOU215, 2P 15A	1
9	804023-026	Thermocouple Converter, ABB 1SVR011753R2000	2
10		Potentiometer, P2	1
11	817143	Adjustable Frequency Motor Controller Inverter, Mistubishi SC-A2100U	1
12	804008.069	Relay, Allen-Bradley 700-HK32A1-4	2
13	804008-070	Relay, Socket, Allen-Bradley 700-HN122	2
14	804002.044	Master Control Relay Allen-Bradley 100-C23ZJ10 23A	1
15	804035.002	Contact, Aux. Allen-Bradley 100-FA20	1
16	804005.189	Analog Output, Microlux 1200, Allen-Braley 1762-IF20F2	1
17	804005.188	PLC, Allen-Bradley Microlux 1200	1
18	804005.190	PLC Memory Cartridge, Allen-Bradley 1762-MM1	1
19	804018.056	Operator Interface, EXOR ETOP 11	1
20	804003.108	Cable, Communication, Exor CA95-20	1
21	-	Pushbutton Switch, Fuji AR22FOR-10W	1
22	817121	Pushbutton Switch, Fuji AR22FOR-10G	1
23	-	Pushbutton Switch, Fuji AR22V2L E3	1
24	-	Pushbutton Switch, Fuji AR22EOR	1
25	-	Pushbutton Switch, Fuji AR22FOR-10G	1
26	817105	Pushbutton Switch, Fuji AR22FOL	1

Table 11-13: Electrical Components (Part 1)

11.16 Electrical Components (Part 2)

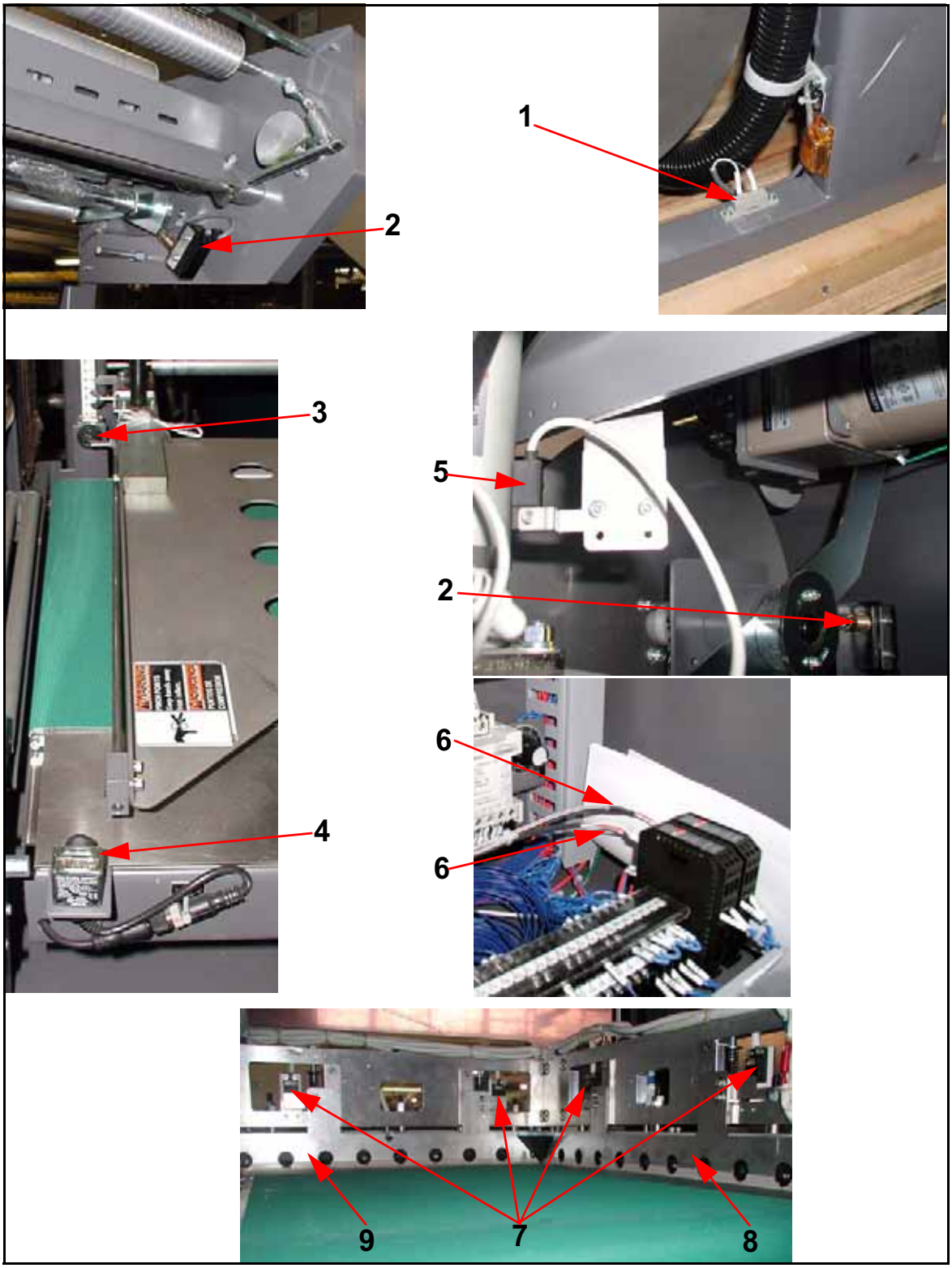

Figure 11-12. Electrical Components (Part 2)

Fig ref.	Part number	Description	Qty
1	817102	Magnetic Door Switch Omron GLS-S1	2
2	817139	Roller Plunger Switch OHM Z-15G022B	2
3	804007.133	Photosensor, Transmitter, Allen-Bradley 42EF-E1EZB-F4	1
4	804001.134	Photosensor, Reciever Allen-Bradley 42EF-R9MPBV-F4	1
5	817099	Reed Switch, SMC D-H7BL	2
6	817076	Thermocouple, Watlow 46-1000017	2
7	817138	Proximity Switch, Omron TL-W5MD2	2
8	817077	Cartridge Heater, Side Seal	1
9	817075	Cartridge Heater, Cross Seal	1
10	817196	Rotary Encoder, Omron E6A2-CS5C (Not Shown)	1

Table 11-14: Electrical Components (Part 2)

11.17 Electrical Components (Options) (Part 3)

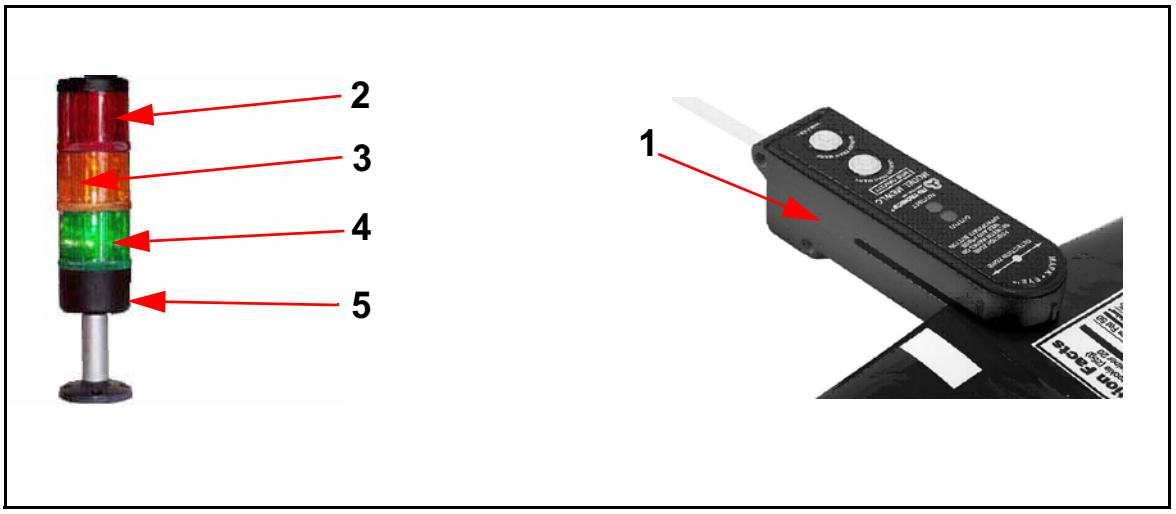

Figure 11-13. Electrical Components (Part 3)

Fig ref.	Part number	Description	Qty
1	804007.149	Photosensor, Tritronics MEWLC	1
2	804017.042	Light Stack, Red, Allen-Bradley 855T-B24DN4	1
3	804017.037	Light Stack, Amber, Allen-Bradley 855T-B24DN5	1
4	804017.043	Light Stack, Green, Allen-Bradley 855T-B24DN3	1
5	804017.025	Stack Light Base, Allen-Bradley 855T-BPM25C	1
6	804007.115	Photo Sensor, Low Film Alert, Allen-Bradley 42BT-B1LBSN (Not Shown)	1

Table 11-15: Electrical Components (Part 3)

11.18 Pneumatics Components

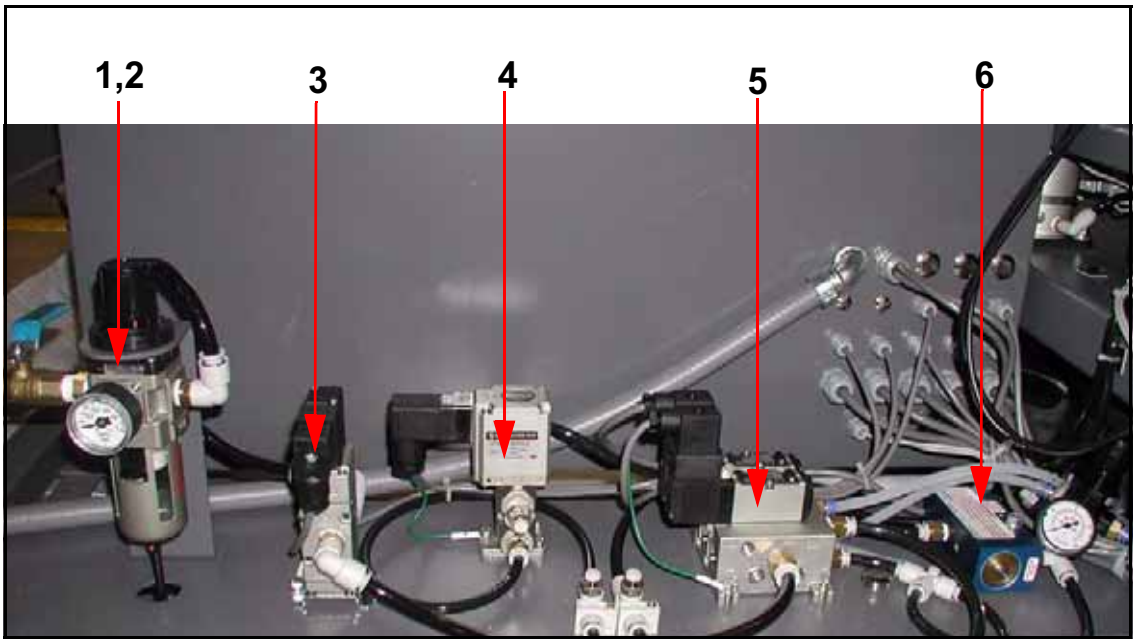

Figure 11-14. Pneumatic Components

Fig ref.	Part number	Description	Qty
1	-	Air Filter/Regulator Assembly, SMC AW30-03-GH-W	1
2	-	Air Filter Element, SMC AF30P-060S	1
3	-	Solenoid Valve, SMC VP542-5DZ-03AF	1
4	817101	Solenoid Valve, SMC VT325-025 DLS	1
5	817114	Solenoid Valve, SMC VFR2110-5DZC	1
6	-	Check Valve, Aladco 302501	1

Table 11-16: Pneumatic Components

11.19 6’ Lugged Infeed Conveyor Core (Option) [227913]

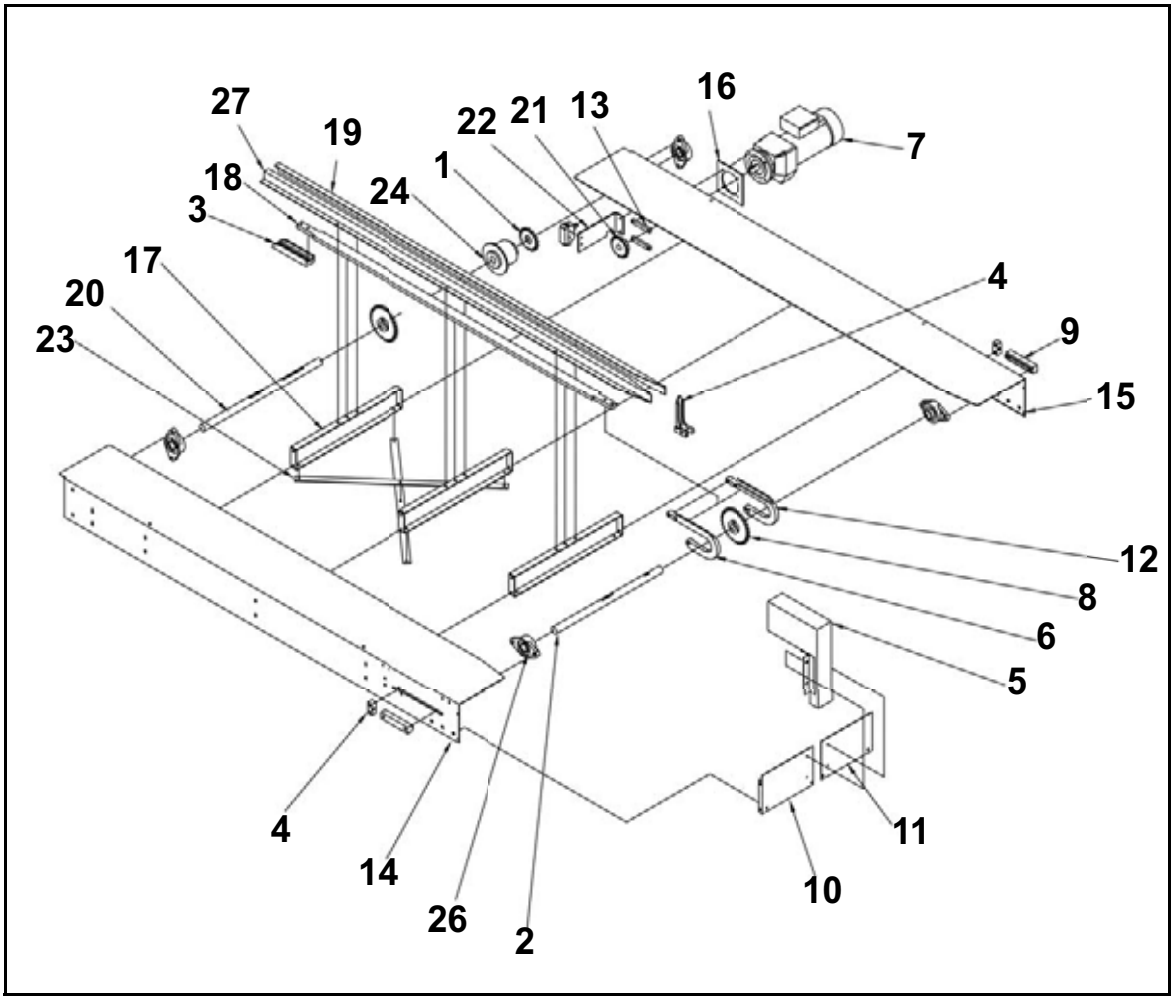

Figure 11-15. 6’ Lugged Infeed Conveyor Core (Option)

Fig ref.	Part number	Description	Qty
1	136658	Sprocket	1
2	142233	Shaft, Idler	1
3	142997.001	Cam, Chain, Head	1
4	144134.002A	Block, Takeup	2
5	144200.002A	Cover, Lug	1
6	144461.001	Cam, Tail, Chain, LH	1
7	816871	Motor, Gear, 1/2 HP Kebco	1
8	146858.000A	Sprocket	2
9	168603	Block, Takeup	2
10	169546	Cover, End, SS	1
11	169546.001	Cover, End, SS	1
12	172435	Cam, Tail, Chain, RH	1
13	191350.001	Plate, Nut	2
14	191425	Channel, Conveyor, L.H.	1
15	191426	Channel, Conveyor, R.H.	1
16	191427	Plate, Spacer, Motor	1
17	191428	XBar, Support, Rail	3
18	191429	Rail, Chain, 6’	1
19	191430	Bracket, Support, Plate, Top	1
20	191431	Shaft, Drive, Conveyor	1
21	191432	Sprocket	1
22	191433	Bracket, Switch	1
23	191439.001	X-Brace	2
24	811731	Torque Limiter, 1” Helland Zero Max	1
25	800466	Chain, Roller #40 Roller	12’
26	802782	Bearing, Flange 1” ID	4
27	191430.001	Bracket, Support, Plate, Top	1

Table 11-17: 6′ Lugged Infeed Conveyor Core (Option)

11.20 480VAC Conversion Kit (Option) [197353]

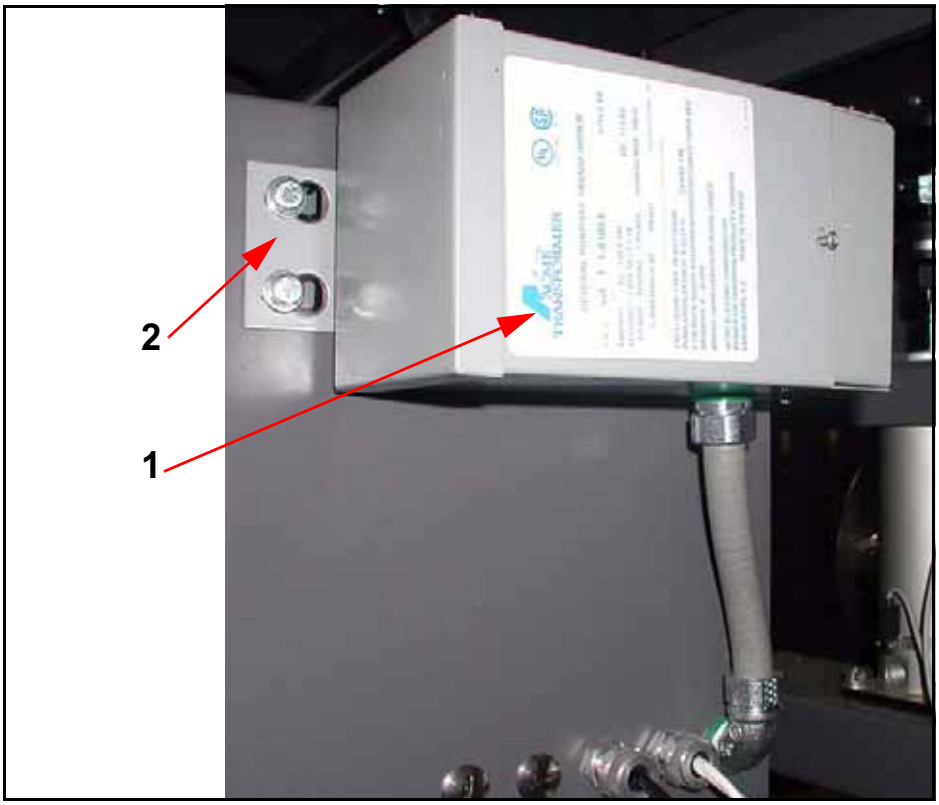

Figure 11-16. 480V Conversion Kit (Option)

Fig ref.	Part number	Description	Qty
1	804024.004	Transformer	1
2	227196	Transformer Mounting Plate	1

Table 11-18: 480V Conversion (Option)

11.21 Lower Film Cradle (Option) [197355]

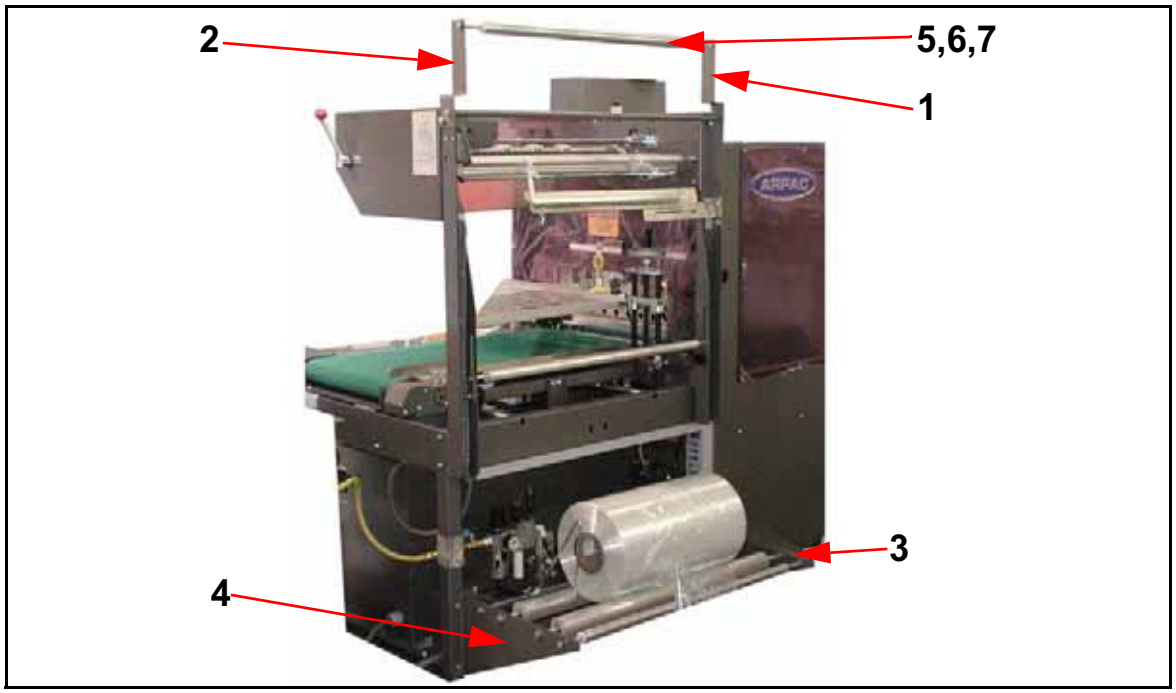

Figure 11-17. Lower Film Cradle (Option)

Fig ref.	L-18 P/N	L-26 P/N	Description	Qty
1	196223	196223	Bracket, Idler Roller Mounting RH	1
2	196224	196224	Bracket, Idler Roller Mounting LH	1
3	197119	197119	Bracket, Film Frame	1
4	197120	197120	Bracker, Film Frame	1
5	196769	194857	Shaft, Idler Roller	2
6	195770	194856	Roller, Idler	2
7	194662	194662	Bushing	4

Table 11-19: Lower Film Cradle (Option)

11.22 Auxiliary Emergency Stop Button (Option) [194576]

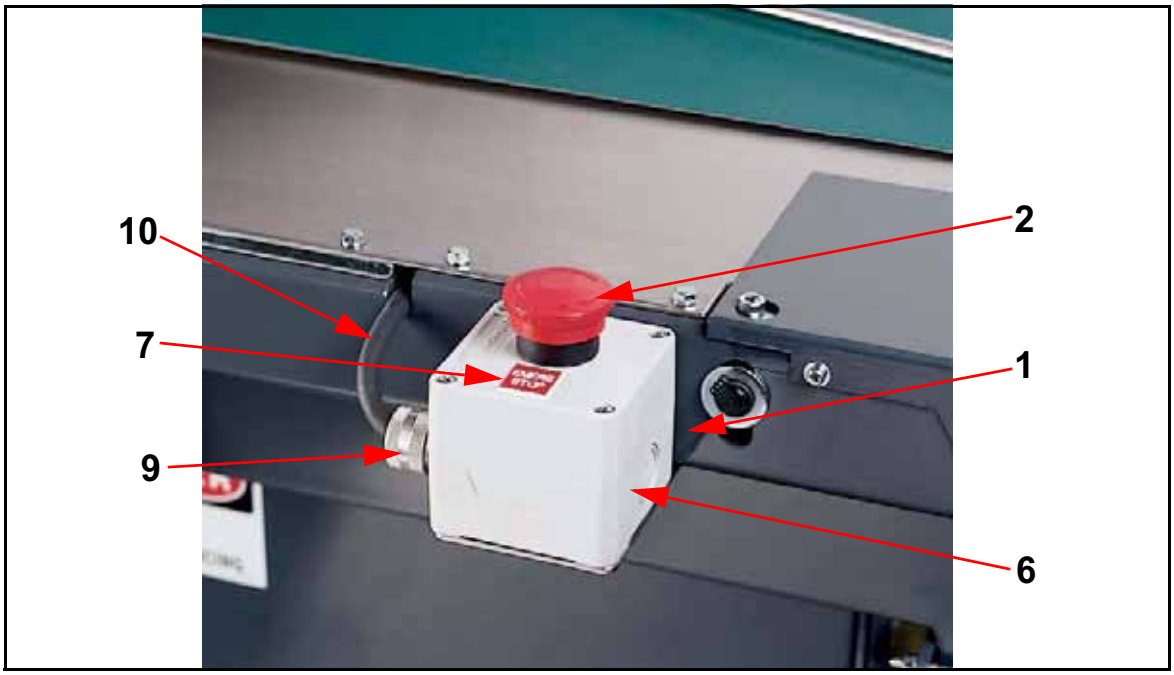

Figure 11-18. Auxiliary Emergency Stop Button (Option)

Fig ref.	Part number	Description	Qty
1	195267	Infeed E-Stop Mount	1
2	817464	Button, Operator	1
3	817465	Block, 4 Across Latch	1
4	817466	Contact, N/C	3
5	817467	Contact, N/O	1
6	817468	Operator Enclosure	1
7	804027.003	Legend Plate, Blank Standard Red	1
8	818315	T & B Conn. 1/2” X .125	2
9	804011.089	Conduit, Locknut	1
10	818695	Wire, 8 Conductor	12’

Table 11-20: Auxiliary Stop Button (Option)

11.23 Auxiliary Infeed Conveyor Control Relay (Option) [197362.000A]

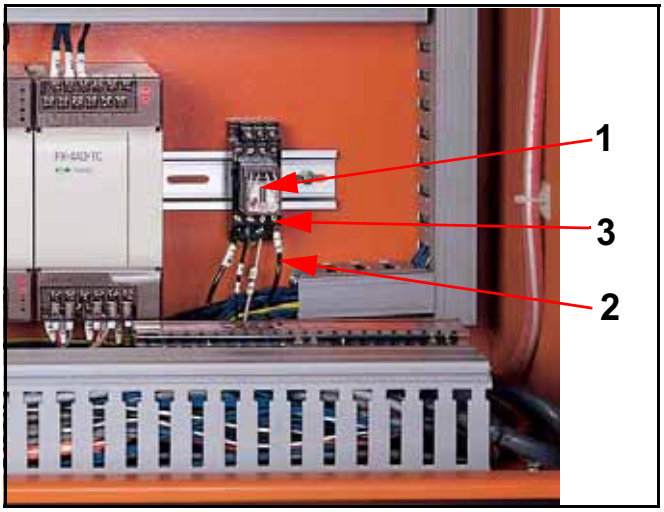

Figure 11-19. Auxiliary Infeed Control Relay (Option)

Fig ref.	Part number	Description	Qty
1	804008.106	Relay, Extra Slim	1
2	817482	Cable	6
3	804010.112	Connector	7

Table 11-21: Auxiliary Infeed Control Relay (Option)

11.24 Vertical Photoeye (Option) [194595]

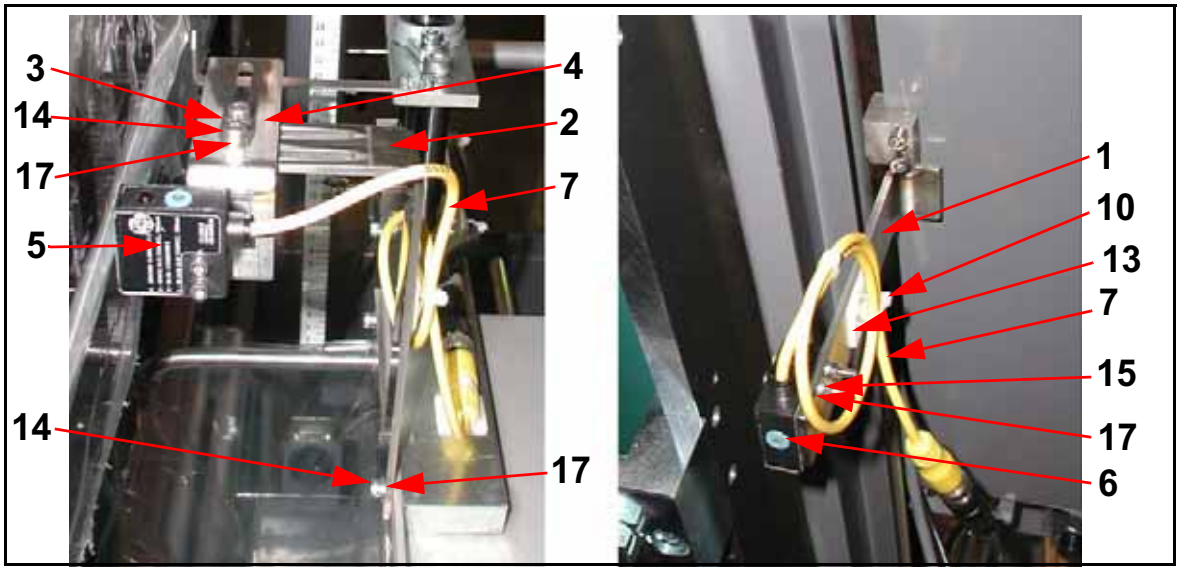

Figure 11-20. Vertical Photoeye (Option)

Fig ref.	Part number	Description	Qty
1	195268	Vertical Eye Mount, Lower	1
2	195269	Vertical Eye Mount, Upper	1
3	195270	Vertical Eye Mount, Nut Plate	1
4	195271	Vertical Eye Mount, Angle	1
5	804007.001	Photo Sensor, Transmitter DC	1
6	804007.003	Photo Sensor, Receiver	1
7	804003.135	Cable	2
8	817493	Terminal Wire Nut	4
9	804010.112	Connector, Terminal, Fork	4
10	803444	Tie, Cable	6
11	197308	Hardware for Vertical Eye Kit	1
12	821721	Splice, Nylon, Insulated	4
13	804039.068	Wire, Cable Tie Cross Section	8
14	807798.021	Hex Head Cap Screw, M4 x 0.7 x 12mm	4
15	807801.001	Washer, Flat, M4	6
16	819486.001	Screw, Thumb, M4 x 0.7 x 12	2
17	807800.001	Washer, Lock, Split M4	6

Table 11-22: Vertical Photoeye (Option)

11.25 Pneumatic Hole Punch (Option) [197340]

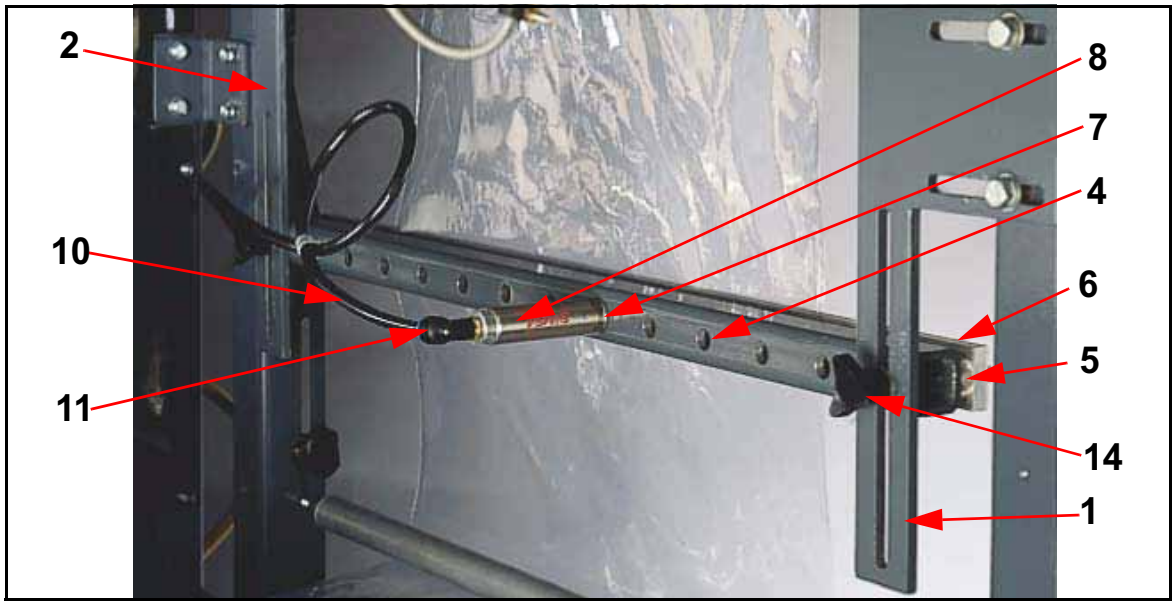

Figure 11-21. Pneumatic Hole Punch (Option)

Fig ref.	Part number	Description	Qty
1	196291	Mounting Plate (RH)	1
2	196925	Mounting Plate (LH)	1
3	195385	Bar Nut, M* 2 3/4” Centers	2
4	196926	Tube, Hole Punch	1
5	195386	Spacer 1” Dia x 5/16” Thick	2
6	196927	Bar, Hole Punch	1
7	195374	Spacer, Hole Punch Cylinder	1
8	817163	Cylinder, Hole Punch Bimba 11840-A	1
9	817181	Valve, Solenoid, Hole Punch	1
10	812991	Tubing, 5/16” O.D. Clear	15’
11	817839	Tube Fitting, 90 Deg. Elbow, 8mm	3
12	817838	Fitting, Plug In Reducer	1
13	817837	Tube Fitting, 10mm Union Tee	1
14	817991	Knob, Bolt M8 x 1.25 Stud x 20mm	2
15	807801.003	Washer, Flat, M8	6
16	822727	Socket Head Cap Screw, M8 x 40mm	2
17	822728	Button Head Cap Screw	4
18	822729	Washer, Lock, M8	8

Table 11-23: Pneumatic Hole Punch (Option)

11.26 Infeed Product Guide (Option) [194572]

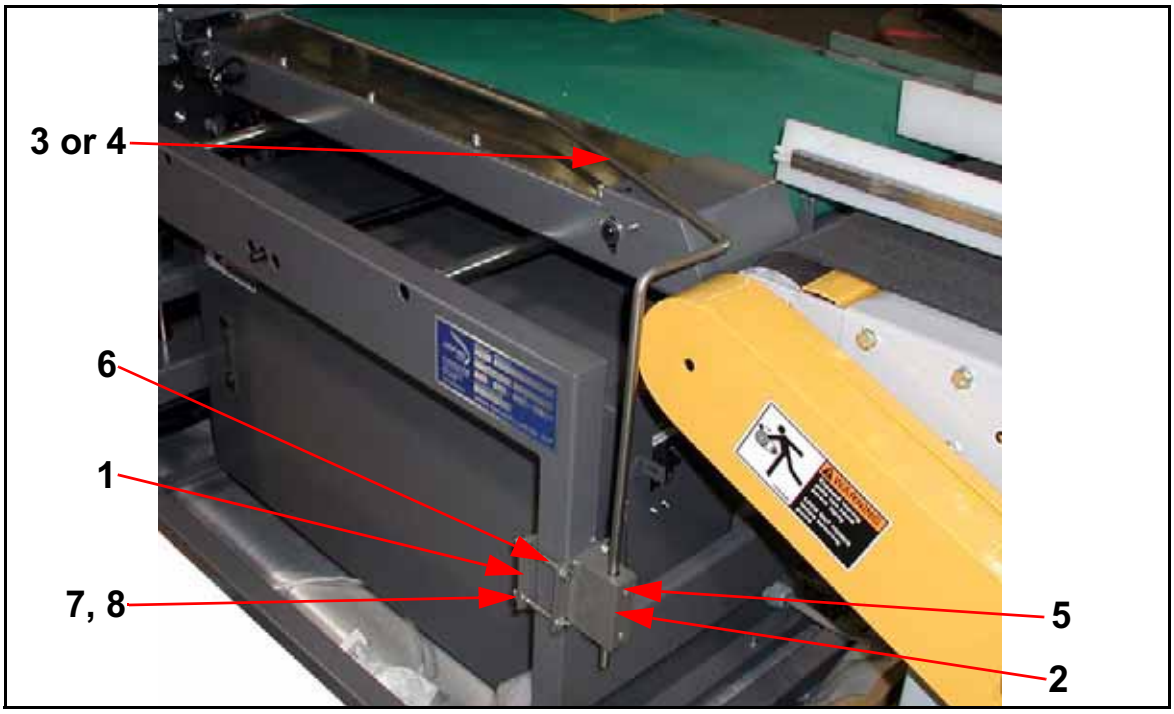

Figure 11-22. Infeed Product Guide (Option)

Fig ref.	Part number	Description	Qty
1	195641.001	Clamp Plate, SS	1
2	196222.001	Bracket, Guide, Product, SS	1
3	196881	Product Guide	1
4	197357	Product Guide (for Reverse Flow Machines Only)	1
5	800346.002	Screw, Set, M8 x 12mm	2
6	800278.020	Hex Head Cap Screw, 1/4-20 x 2 3/4” SS	4
7	800292.008	Washer, Lock, Split 1/4” SS	4
8	800290.009	Nut, 1/4-20 Hex SS	4

Table 11-24: Infeed Product Guide (Option)

11.27 Seal Opening Kit (Option)

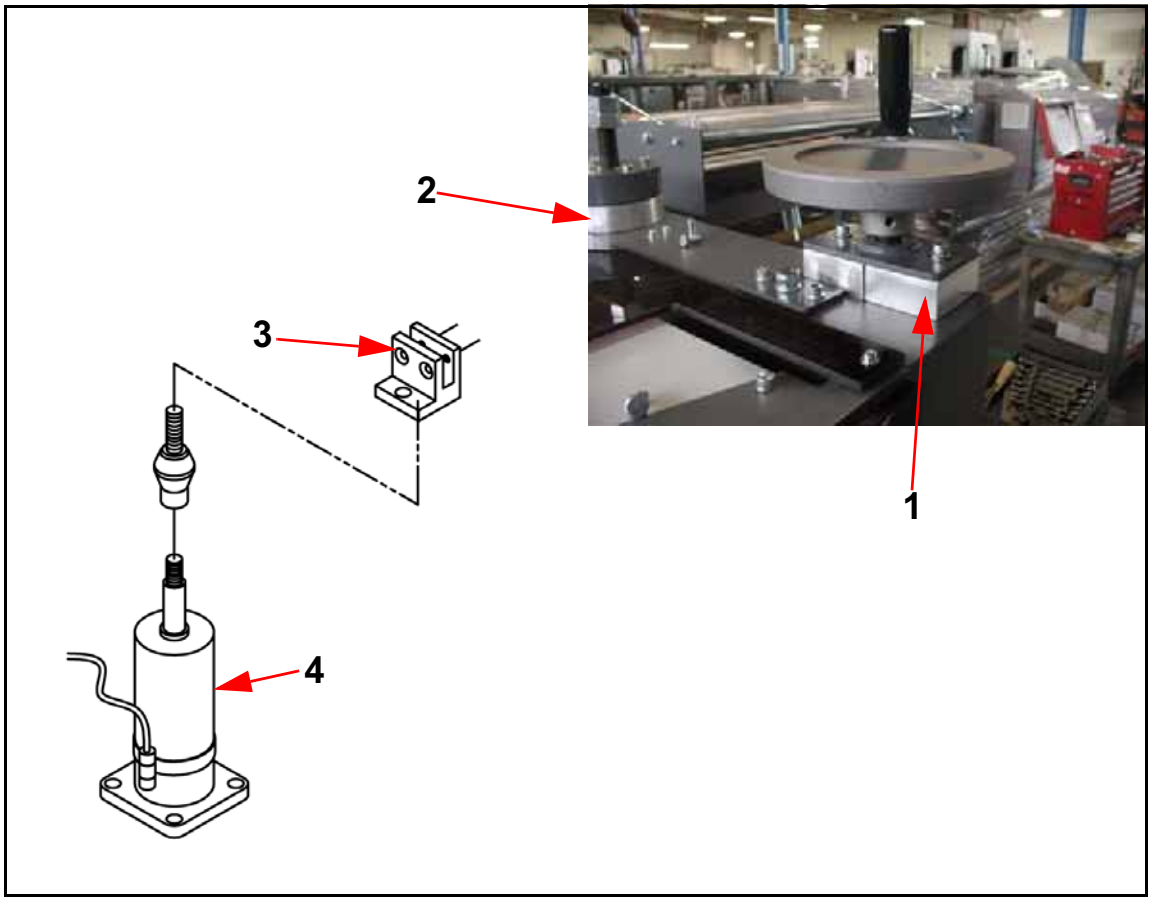

Figure 11-23. Seal Opening Kit (Option)

Fig ref.	L-18 P/N	L-26 P/N	Description	Qty
1	195633	195633	Spacer, Seal Height Crank	2
2	195634	195634	Spacer, Seal Height Jack Screw	2
3	196069	196069	Cylinder Block	1
4	817162	817169	Seal Head Cylinder	1
5	807798-024	807798-024	Hex Head Cap Screw M6 X 1 X 60mm	4

Table 11-25: Seal Opening Kit (Option)

11.28 Stack Light (Option) [194578]

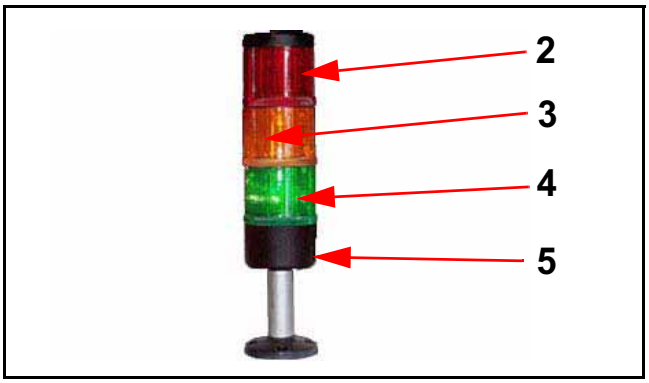

Figure 11-24. Stack Light (Option)

Fig ref.	Part number	Description	Qty
1	804017.042	Light Stack, Red, Allen-Bradley 855T-B24DN4	1
2	804017.037	Light Stack, Amber, Allen-Bradley 855T-B24DN5	1
3	804017.043	Light Stack, Green, Allen-Bradley 855T-B24DN3	1
4	804017.025	Stack Light Base, Allen-Bradley 855T-BPM25C	1

Table 11-26: Stack Light (Option)

11.29 Registration Kit (Option) [194575]

Fig ref.	Part number	Description	Qty
1	195692	Bracket, Print Reg. Eye Mounting	2
2	195709	Strip, Nut, Print Reg. Eye	1
3	195710	Bracket, Print Reg.	1
4	195711	Shaft, Print Reg. Eye	1
5	817381	Adj. Handle, Stud Type 1/4-20 x 3/4	3
6	804007-149	Photo Sensor, Regitration	1
7	804003-017	Cable, Registration	1

Table 11-27: Registration Kit (Option)

11.30 Seal Bar Kit - Black Sparkle Coated For L-18 (Option) [240795]

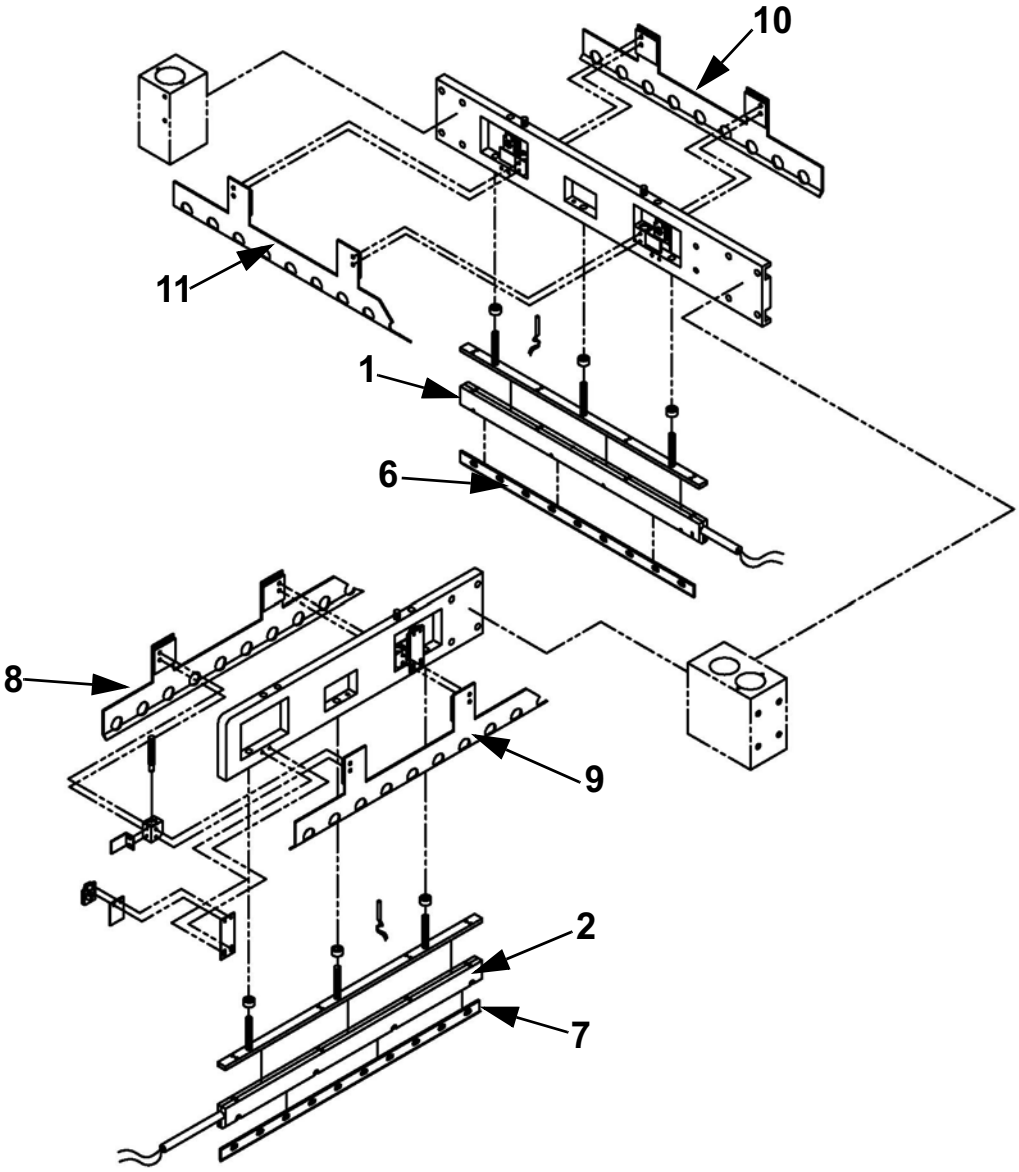

Figure 11-25. Seal Bar Kit - Black Sparkle Coated for L-18

Fig ref.	Part number	Description	Qty
1	226378	Halves, Bar, Seal 460mm T/D L18	1
2	226376	Halves, Bar, Seal 495mm, M/D L18	1
3	204037-001A	Insert, Bar, Seal, Plasma, T/D Notched, 1OZ 460mm = 18.110”	1
4	239082-001	Inserts, Bar, Seal, Plasma, 19.625” Lg M/D (Set)	1
5	101173-213	Insert, Bar, Seal, Plasma, 460mm Lg T/D 460mm = 18.110”	1
6	123172-025	Blade, Knife, 18.110”, Bar, Seal, Coated	1
7	204036-101	Blade, Knife, Bar, Seal, M/D 1 OZ Black-sparkle Coated	1
8	226427	M/D Film Clamp, Inner, PE L18 Hanag-ata, 1 OZ	1
9	226428	M/D Film Clamp, Outer, PE L18 Hanag-ata, 1 OZ	1
10	226429	T/D Film Clamp, Outer, PE L18 Hanag-ata, 1 OZ	1
11	226430	T/D Film Clamp, Inner, PE L18 Hanagata, 1 OZ	1

Table 11-28: Seal Bar Kit - Black Sparkle Coated for L-26 (Option)

11.31 Seal Bar Kit - Black Sparkle Coated For L26 (Option) [242261]

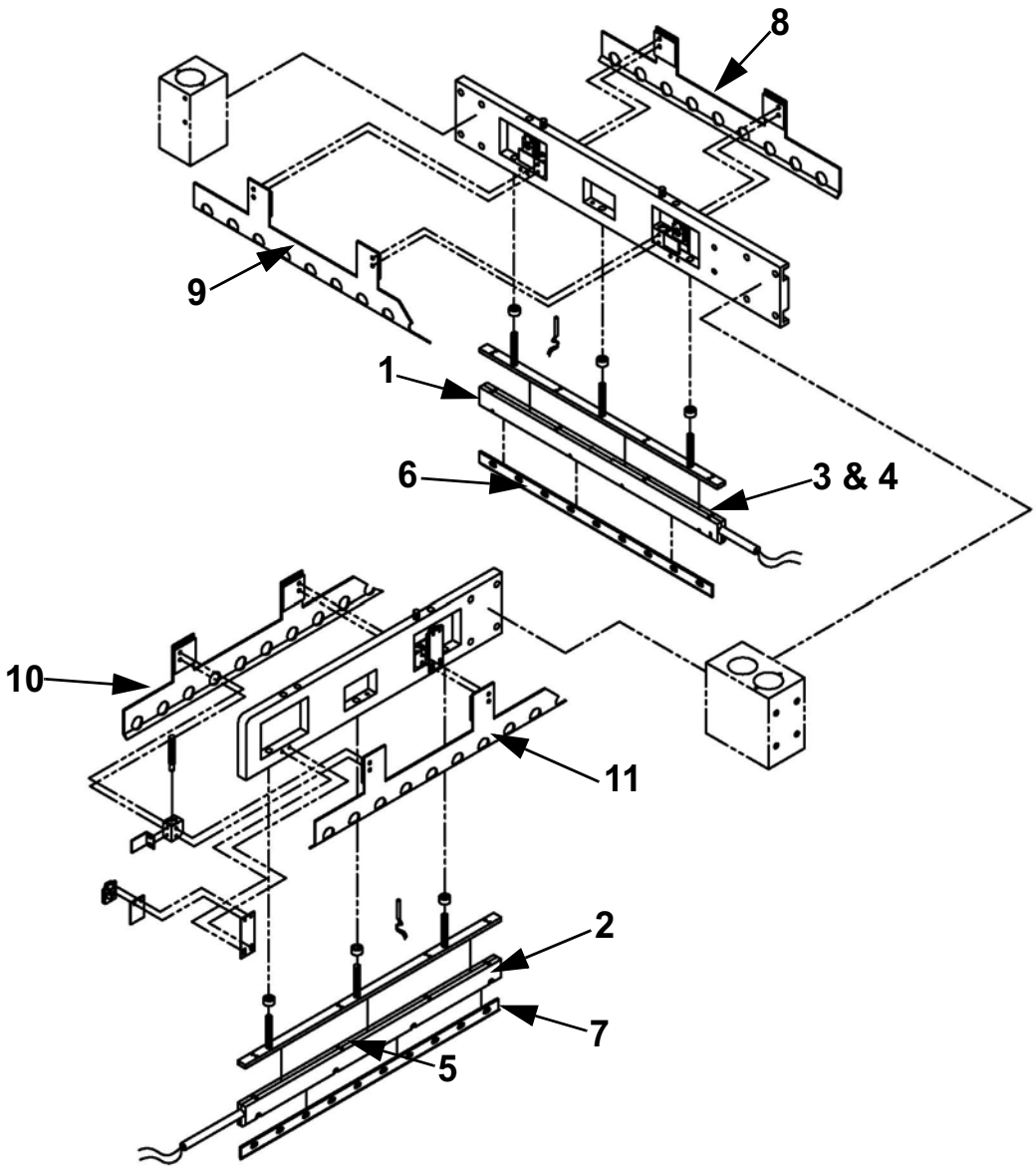

Figure 11-26. Seal Bar Kit - Black Sparkle Coated for L-26

Fig ref.	Part number	Description	Qty
1	204034	Halves, Bar, Seal 560mm T/D L26	1
2	204035	Halves, Bar, Seal 695mm, M/D 268	1
3	204037-000A	Insert, Bar, Seal, Plasma, T/D Notched, 3OZ 560mm = 22.047”	1
4	101173-028	Insert, Bar, Seal, Plasma, 560mm Lg T/D 560mm = 22.047”	1
5	239082	Inserts, Bar, Seal, Plasma, 27.500Lg M/D, (SET)	1
6	123172-026	Blade, Knife, 22.047”, Bar, Seal, Coated	1
7	204036-100	Blade, Knife, Bar, Seal, M/D 3 OZ Black-sparkle Coated	1
8	204051	Plate, Stripper, Outer, T/D, L26	1
9	204052	Plate, Stripper, Inner, T/D, L26	1
10	204053	Plate, Stripper, Inner, M/D, L26	1
11	204054	Plate, Stripper, Outer, M/D, L26	1

Table 11-29: Seal Bar Kit - Black Sparkle Coated for L-26 (Option)

11.32 Seal Bar Kit - Plasma for L-18 (Option) [226380]

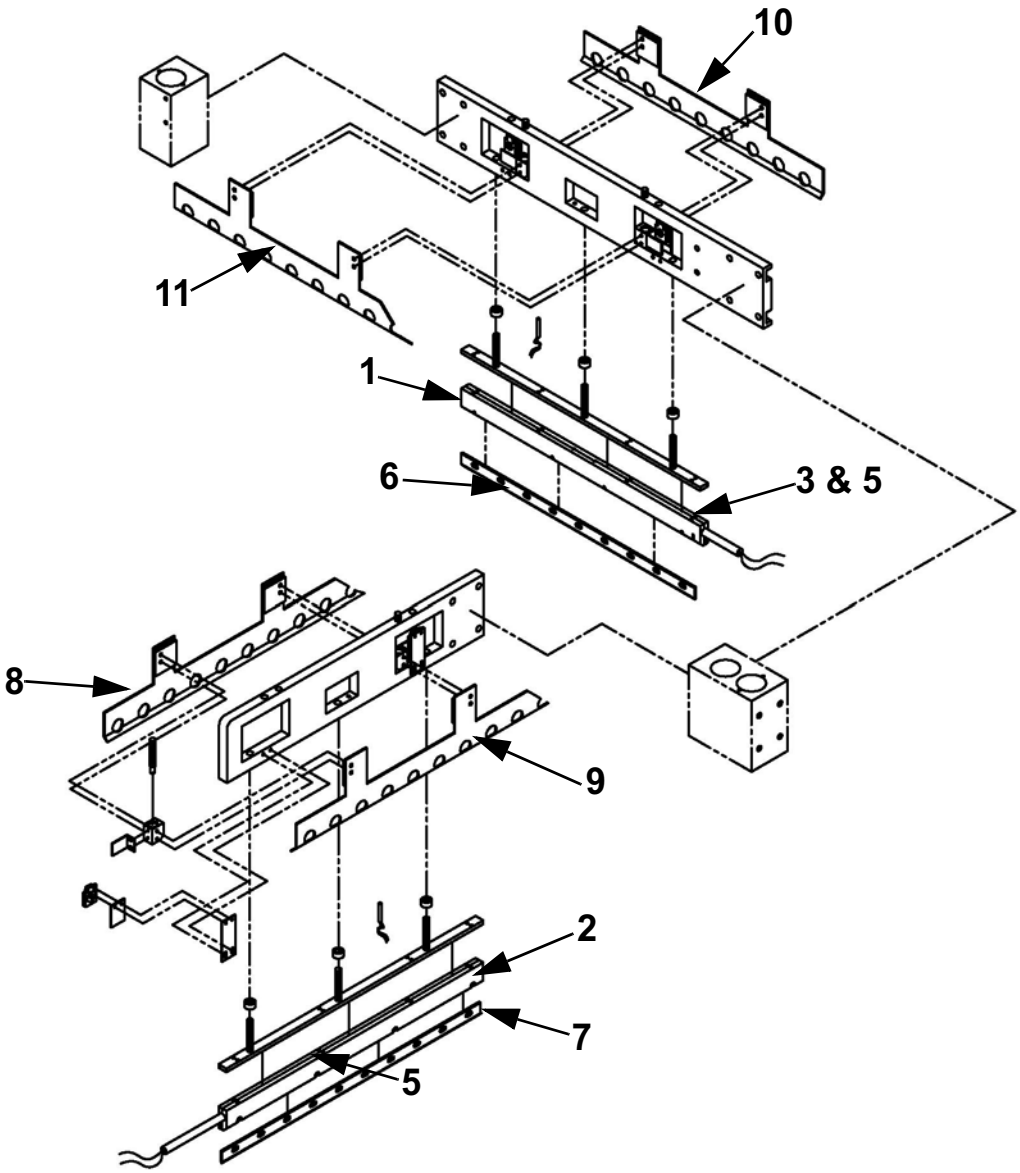

Figure 11-27. Seal Bar Kit - Plasma for L-18

Fig ref.	Part number	Description	Qty
1	226378	Halves, Bar, Seal 460mm T/D L18	1
2	226376	Halves, Bar, Seal 495mm, M/D L18	1
3	204037-001A	Insert, Bar, Seal, Plasma, T/D Notched, 1OZ 460mm = 18.110”	1
4	239082-001	Inserts, Bar, Seal, Plasma, 19.625” Lg M/D (Set)	1
5	101173-213	Insert, Bar, Seal, Plasma, 460mm Lg T/D 460mm = 18.110”	1
6	101147-104	Blade, Knife, Bar, Seal, T/D, 460mm Lg 1 OZ, 460mm = 18.110”	1
7	204036-001	Blade, Knife, Bar, Seal, M/D 1 OZ	1
8	226427	M/D Film Clamp, Inner, PE L18 Hanagata, 1 OZ	1
9	226428	M/D Film Clamp, Outer, PE L18 Hanagata, 1 OZ	1
10	226429	T/D Film Clamp, Outer, PE L18 Hanagata, 1 OZ	1
11	226430	T/D Film Clamp, Inner, PE L18 Hanagata, 1 OZ	1

Table 11-30: Seal Bar Kit - Plasma for L-18 (Option)

11.33 Seal Bar Kit - Plasma for L-26 (Option) [204017-000B]

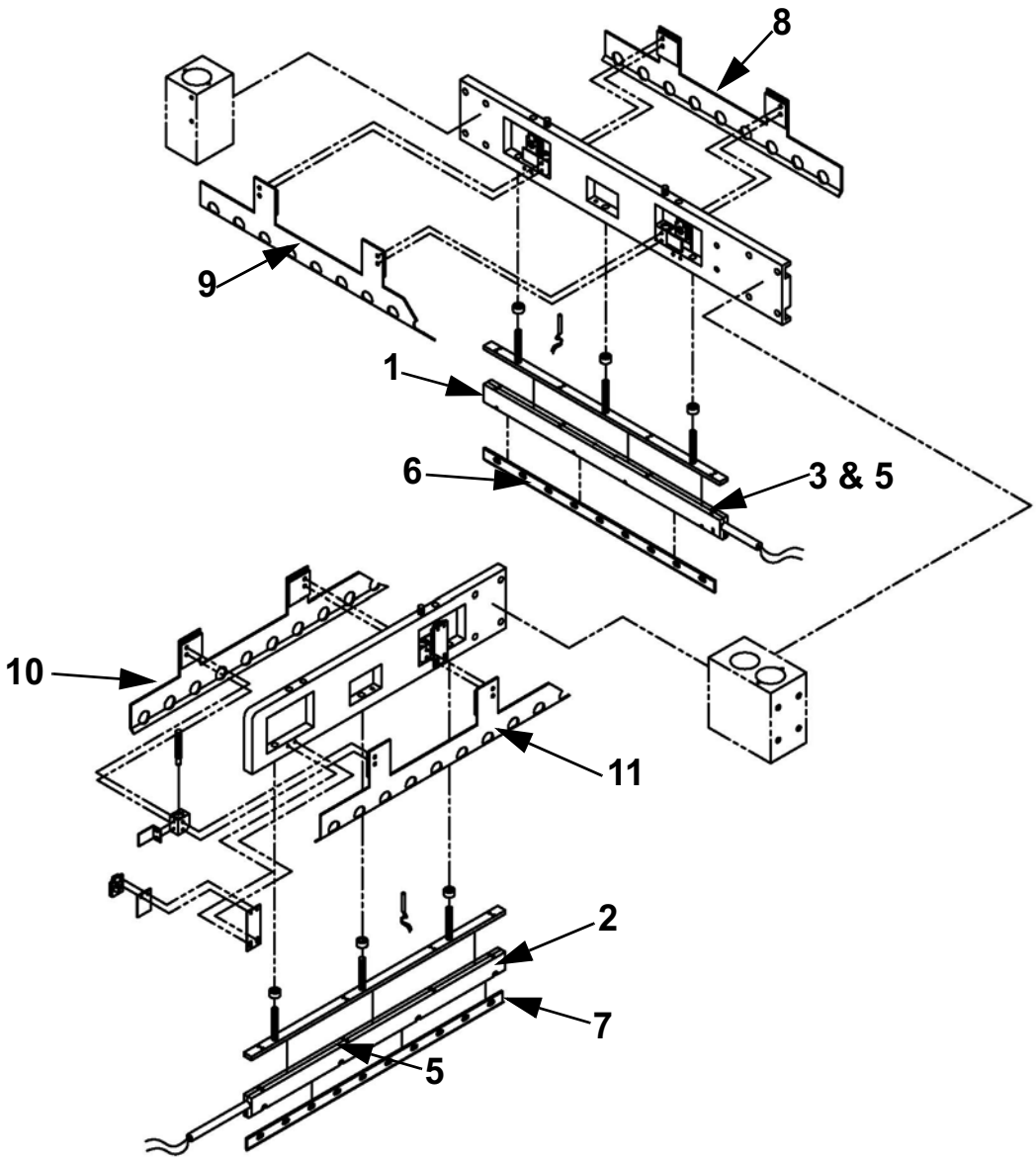

Figure 11-28. Seal Bar Kit - Plasma for L-26

Fig ref.	Part number	Description	Qty
1	204034	Halves, Bar, Seal 560mm T/D L26	1
2	204035	Halves, Bar, Seal 695mm, M/D L26	1
3	204037-000A	Insert, Bar, Seal, Plasma, T/D Notched, 3OZ 560MM = 22.047”	1
4	101173-028	Inserts, Bar, Seal, Plasma, 560MM Long T/D	1
5	239082	Inserts, Bar, Seal, Plasma, 27.500 Lg, M/D (Set)	1
6	101147-028	Blade, Knife, Bar, Seal, T/D, 560mm Lg 3 OZ, 560MM = 22.047”	1
7	204036	Blade, Knife, Bar, Seal, M/D 3 OZ	1
8	204051	PLT, Stripper, Outer, T/D, L26	1
9	204052	PLT, Stripper, Inner, T/D, L26	1
10	204053	PLT, Stripper, Inner, M/D, L26	1
11	204054	PLT, Stripper, Outer, M/D, L26	1

Table 11-31: Seal Bar Kit - Plasma for L-26 (Option)

11.34 Seal Bar Kit - Mushroom Radius Corner L-18 (Option) [824991]

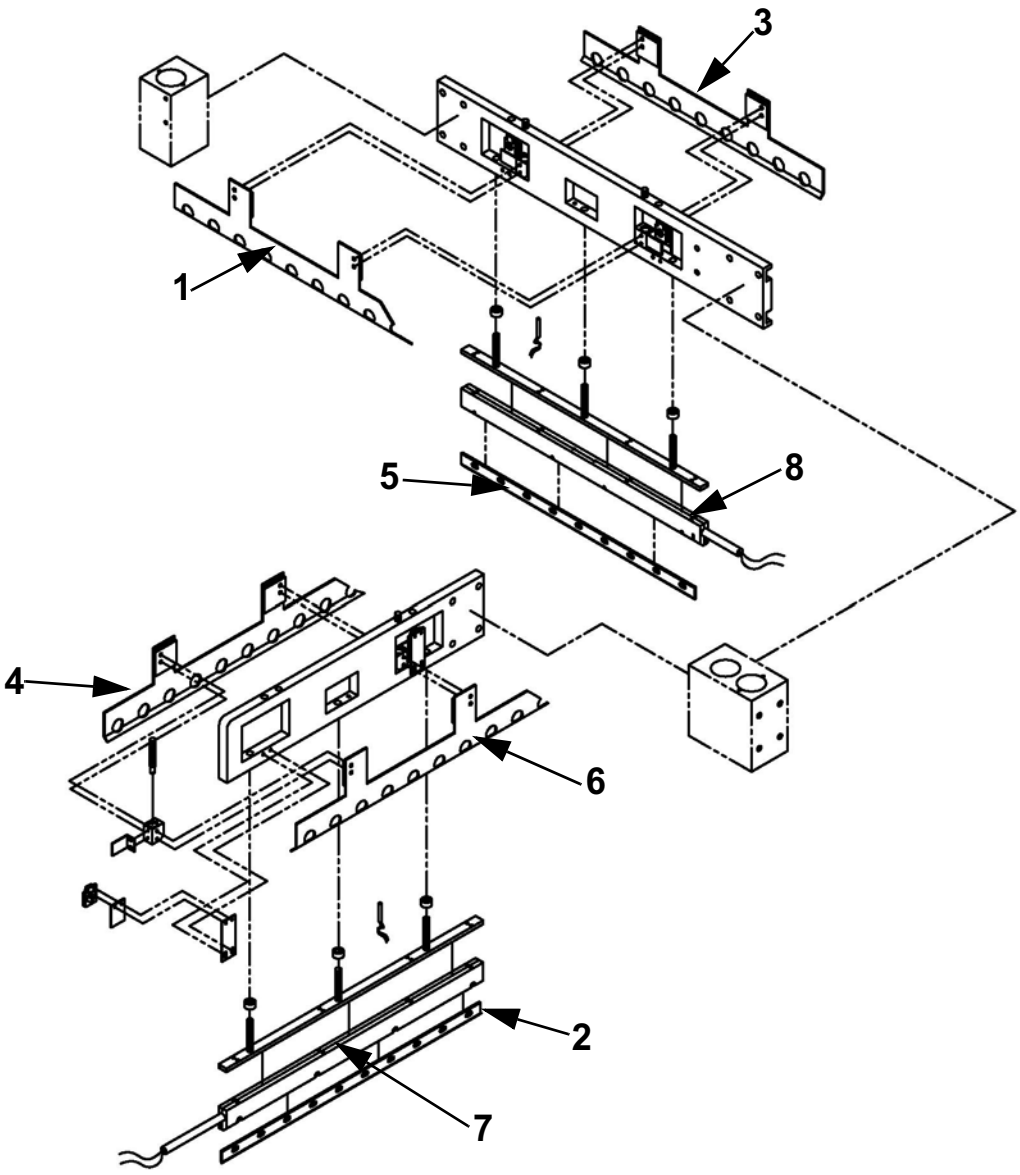

Figure 11-29. Seal Bar Kit - Mushroom Radius Corner L-18

Fig ref.	Part number	Description	Qty
1	226430	T/D Clamp, Inner, PE, L18 Hanagata 1 OZ	1
2	825152	Blade, Cuting, Front, Arrow, Bar, Seal L-18	1
3	226429	T/D Film, Clamp, Outer, PE, L-18 Hanagata 1 OZ	1
4	226427	M/D Film, Clamp, Inner, PE, L-18 Hanagata 1 OZ	1
5	825152-001	Blade, Cutting, Cross, Arrow, Bar, Seal L-18	1
6	226428	M/D Film, Clamp, Outer, PE, L-18 Hanagata 1 OZ	1
7	825149	Insert, Front, Arrow, Bar, Seal, L-18	1
8	825149-001	Insert, Cross, Arrow, Bar, Seal, L-18	1

Table 11-32: Seal Bar Kit - Mushroom Radius Corner L-18 (Option)

11.35 Seal Bar Kit - Mushroom Radius Corner L-26 (Option) [824992]

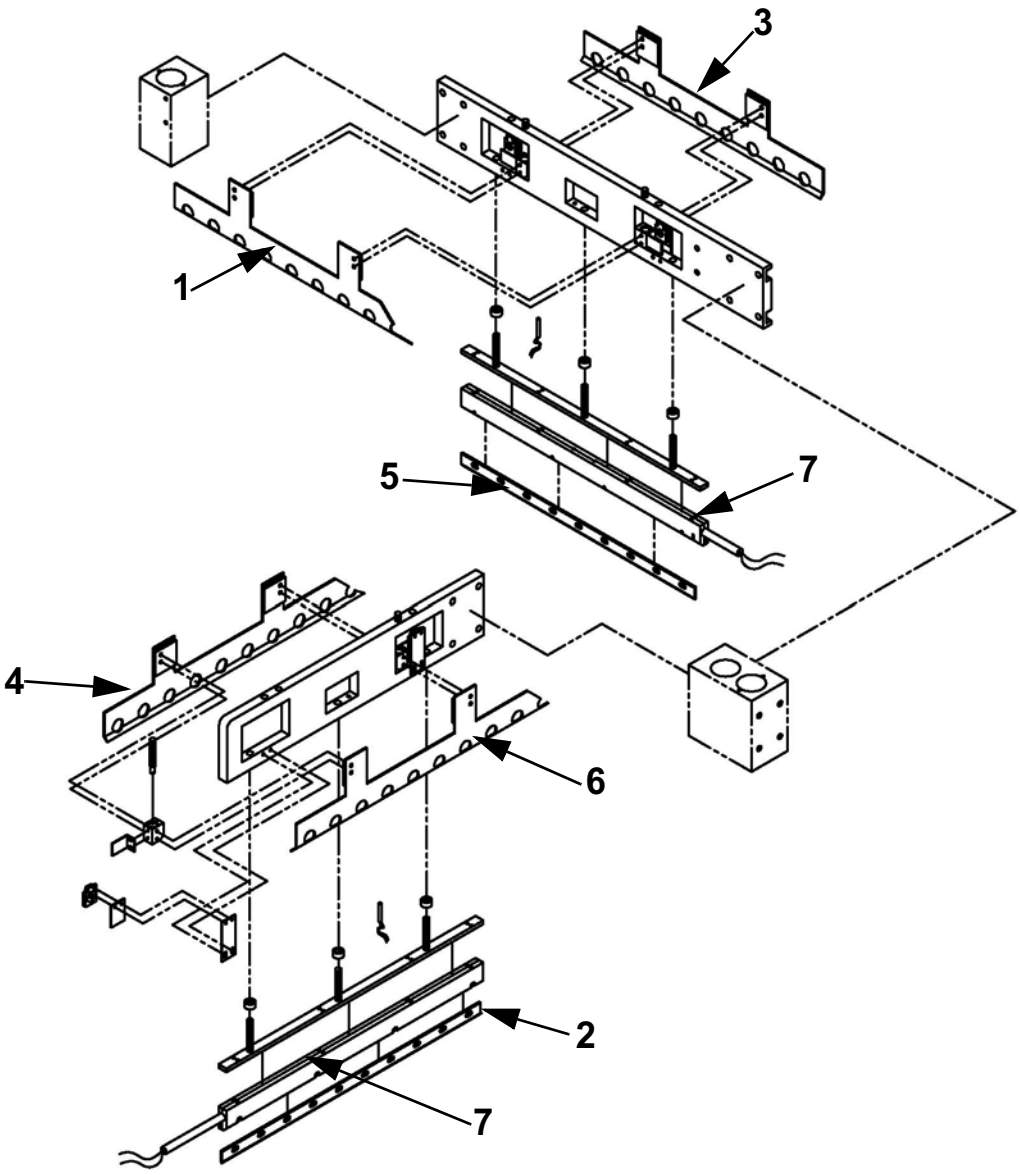

Figure 11-30. Seal Bar Kit - Mushroom Radius Corner L-26

Fig ref.	Part number	Description	Qty
1	204052	Plate, Stripper, Inner, T/D, L26	1
2	825151	Blade, Cuting, Front, Arrow, Bar, Seal L-26	1
3	204051	Plate, Stripper, Outer, T/D, L26	1
4	204053	Plate, Stripper, Inner, M/D, L26	1
5	825151-001	Blade, Cutting, Cross, Arrow, Bar, Seal L-26	1
6	204054	Plate, Stripper, Outer, M/D, L26	1
7	825150	Insert, Front, Arrow, Bar, Seal, L-26	1
8	825150-001	Insert, Cross, Arrow, Bar, Seal, L-26	1

Table 11-33: Seal Bar Kit - Mushroom Radius Corner L-26 (Option)

11.36 Seal Bar Kit - Mushroom Square Corner L-18 (Option) [823407]

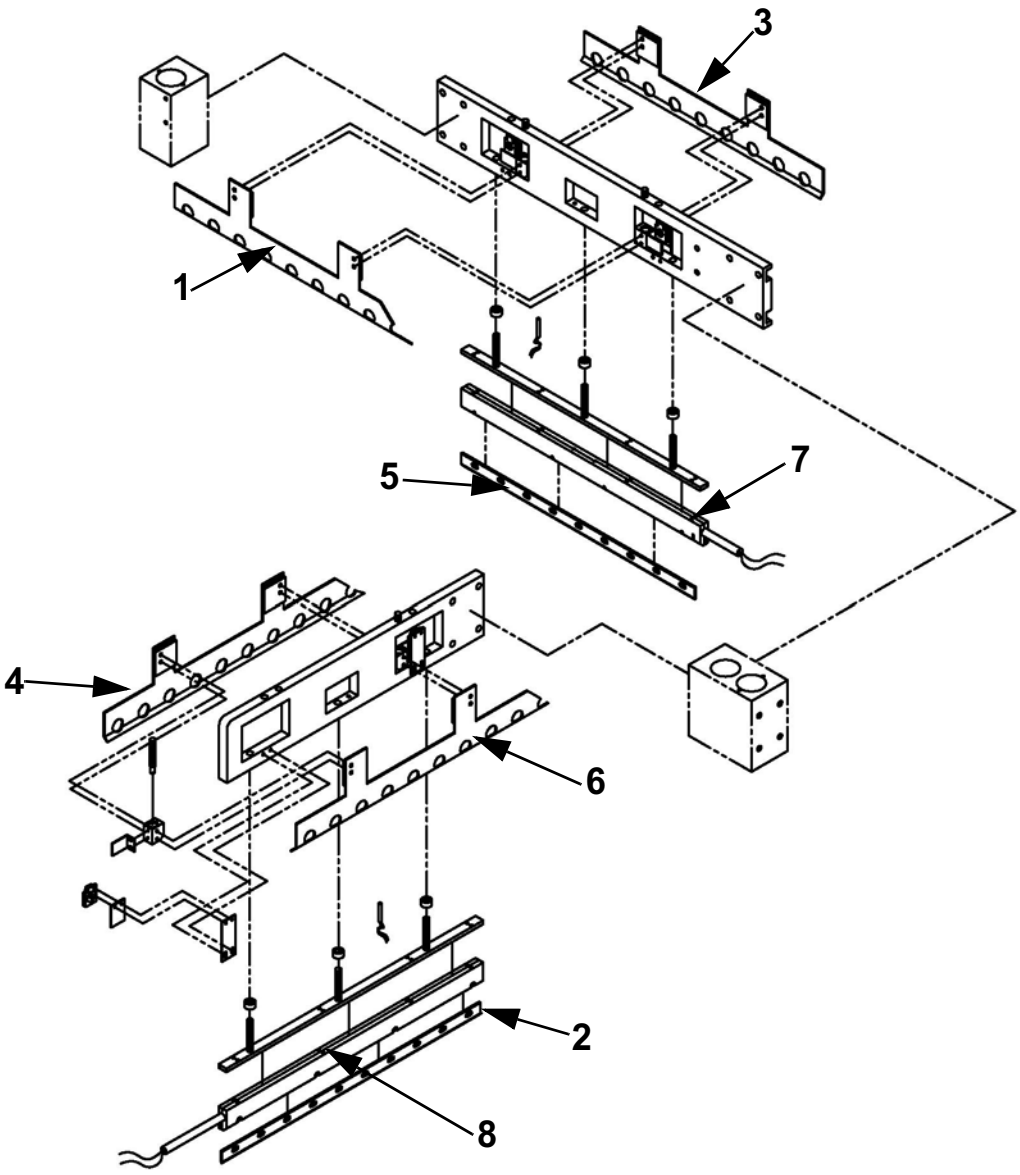

Figure 11-31. Seal Bar Kit - Mushroom Square Corner L-18

Fig ref.	Part number	Description	Qty
1	226430	T/D Clamp, Inner, PE, L18 Hanagata 1 OZ	1
2	825517	Blade, Cuting, Front, Arrow, Bar, Seal L-18	1
3	226429	T/D Film, Clamp, Outer, PE, L-18 Hanagata 1 OZ	1
4	226427	M/D Film, Clamp, Inner, PE, L-18 Hanagata 1 OZ	1
5	825517-001	Blade, Cutting, Cross, Arrow, Bar, Seal L-18	1
6	226428	M/D Film, Clamp, Outer, PE, L-18 Hanagata 1 OZ	1
7	825516	Insert, Front, Arrow, Bar, Seal, L-18	1
8	825516-001	Insert, Cross, Arrow, Bar, Seal, L-18	1

Table 11-34: Seal Bar Kit - Mushroom Square Corner L-18 (Option)

11.37 Seal Bar Kit - Mushroom Square Corner L-18 (Option) [823407]

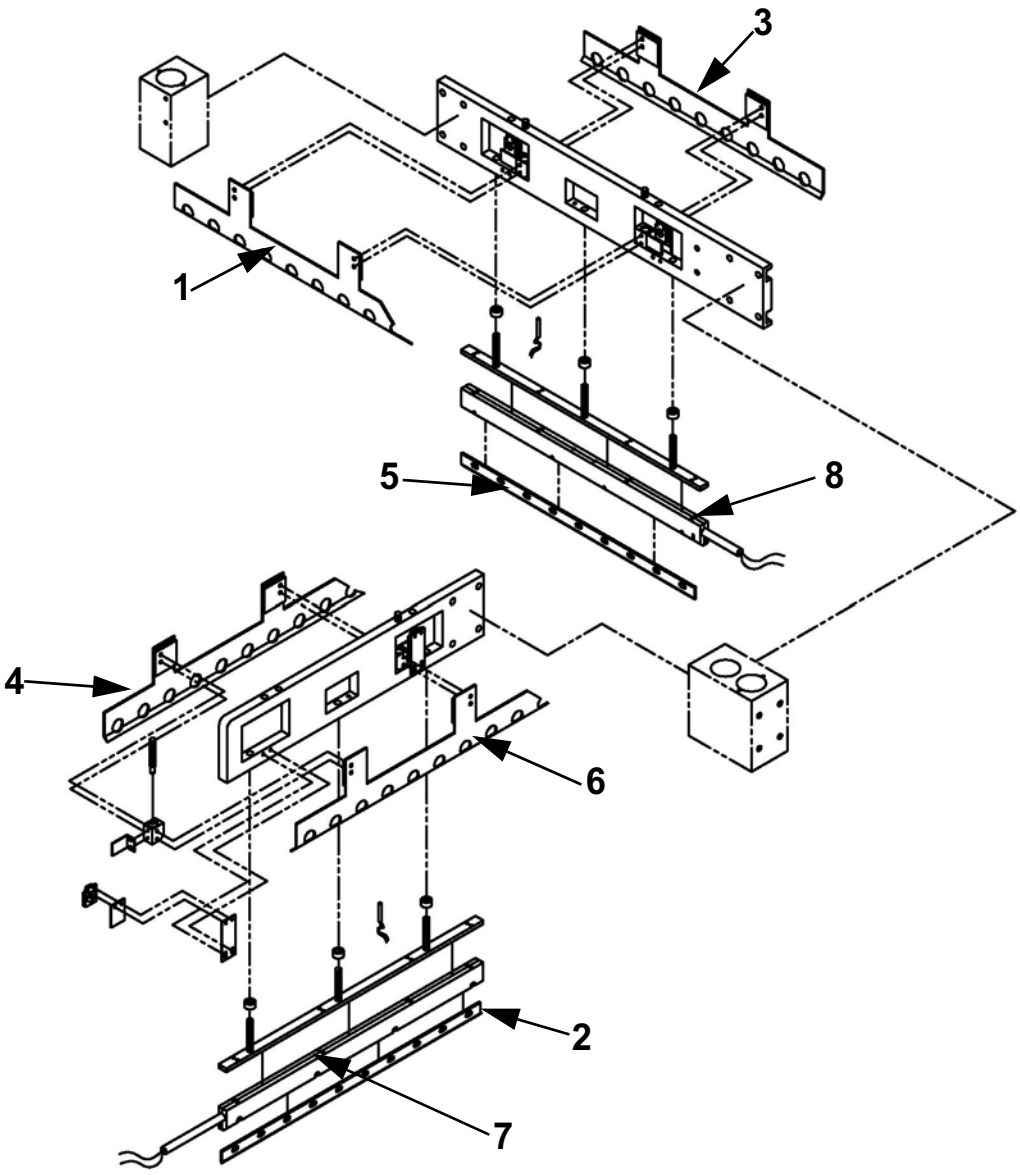

Figure 11-32. Seal Bar Kit - Mushroom Square Corner L-26

Fig ref.	Part number	Description	Qty
1	204052	Plate, Stripper, Inner, T/D, L26	1
2	825519	Blade, Cuting, Front, Arrow, Bar, Seal L-26	1
3	204051	Plate, Stripper, Outer, T/D, L26	1
4	204053	Plate, Stripper, Inner, M/D, L26	1
5	825519-001	Blade, Cutting, Cross, Arrow, Bar, Seal L-26	1
6	204054	Plate, Stripper, Outer, M/D, L26	1
7	825518	Insert, Front, Arrow, Bar, Seal, L-26	1
8	825518-001	Insert, Cross, Arrow, Bar, Seal, L-26	1

Table 11-35: Seal Bar Kit - Mushroom Square Corner L-26 (Option)

O.E.M. Information

12

12.1 O.E.M. Vendor Information

The CD on the next page contains original equipment manufacturer information for the machine. This information includes service and operation instuctions for such items as the the machine's PLC controller, motors, gearboxes, sensors, etc. The information is organized in alphabetical order according to each vendor's brand name.

Notes

Notes

Notes

Distributor Information

This product was manufactured by:

Arpac L.P.
9511 West River Street
Schiller Park, IL 60176 U.S.A.

(847) 678-9034

www.arpac.com

And is distributed by: